EFFECTIVENESS OF YOGA UPON STRESS AMONG POSTMENOPAUSAL WOMEN

By

MS.KALAIARASI.P

A DISSERTATION SUBMITTED TO THE TAMILNADU DR.M.G.R.MEDICAL UNIVERSITY, CHENNAI, IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF SCIENCE IN NURSING

MARCH 2011

EFFECTIVENESS OF YOGA UPON STRESS AMONG

POST MENOPAUSAL WOMEN

Approved by the Dissertation Committee on : _____

Research Guide **:** _____

Dr. Latha Venkatesan
M.Sc (N)., M.Phil., Ph.D.,
Principal and Professor in Nursing,
Apollo College of Nursing,
Chennai- 600 095.

Clinical Guide **:** _____

Mrs. Anuradha C. M.Sc (N).,
Assistant Professor,
Department of Psychiatric Nursing,
Apollo College of Nursing,
Chennai- 600 095.

Medical Expert **:** _____

Dr. Sarath Battina M.D., D.G.O.,
Head of the department,
Department of Obstetrics and Gynecology
Apollo Hospitals,
Chennai –600 006.

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MARCH 2011

DECLARATION

I hereby declare that the present dissertation entitled **"EFFECTIVENESS OF YOGA UPON STRESS AMONG POST MENOPAUSAL WOMEN"** is the outcome of original research work undertaken and carried out by me, under the guidance of **Dr.Latha Venkatesan, M.Sc (N)., M.Phil., Ph.D.,** Principal and Professor in Nursing, Apollo College of Nursing, Chennai and **Mrs.Anuradha.C, M.Sc (N).,** Assistant Professor, Department of Psychiatric nursing, Apollo College of Nursing, Chennai.

I also declare that the material of this has not formed in any way, the basis for the award of any degree or diploma in this university or any other universities.

II year M.Sc (N) Student

ACKNOWLEDGEMENT

I will sing to the Lord all my life:

I will sing praise to my God as long as I live (psalm 104:33)

Praises, glory, wisdom, thanks, honor, power, strength be to my **Lord God Almighty** for His Loving Blessings upon me.

My heartfelt gratitude to **Dr. Latha Venkatesan,** M.Sc (N)., M. Phil., Ph.D., Principal and Professor in Nursing, Apollo College of Nursing, Chennai, for her mentorship by guidance, invaluable suggestions, and role modeling in the field of nursing researches and efforts in conceptualizing the study, whose steadfastness has made this possible with her brainstorming ideas and for giving me a chance to enrich my professional life.

I extend my earnest gratitude to **Prof. Lizy Sonia,** M.Sc (N)., Ph.D., Vice Principal, and Head of the Department, Medical Surgical Nursing, for her valuable help in enabling us to complete this study.

I extend my earnest gratitude to **Prof. K. Vijayalakhsmi,** M.Sc (N)., M.A Psychology, Ph.D, Head of the Department, Department of Psychiatric Nursing, Apollo College of Nursing, Chennai, for her constant support and efficient guidance at each step of our study, without which this would not have materialized.

My heartfelt gratitude to **Mrs**. **C. Anuradha,** M.Sc (N)., Assistant Professor, Department of Psychiatric Nursing, Apollo College of Nursing, Chennai, for sincerely going through each and every line of the study to make corrections, giving valuable

suggestions, timely help, unceasing guidance and untiring willingness to help at any time in this study.

I also thank **Mrs. Stella Mary**, M.Sc (N)., Lecturer, Department of Psychiatric Nursing, for her constant encouragement, support and guidance throughout the study.

I deem it a privilege and pleasure to thank all the **Faculty Members** of Apollo College of Nursing, Chennai, for their continuous support and consideration at various stages of the study. I am highly pleased to extend my thanks to **the experts** who helped in validating the tool.

With special references, I thank **Dr. Sarath Battina** M.D., DGO, Head of the Department of Obstetrics and Gynecology, Apollo Hospitals, Chennai, for acknowledging the importance of this study and extending her encouragements and guidance.

My thanks to **Mr.A.J.Paul,** Village Leader, Ayanambakkam, Chennai, for his help and cooperation in the community area. My heartfelt thanks to all the **Participants** in this study and I am greatly indebted for their patience, co-operation and for having accepted to be a part of this study.

My whole hearted thanks to the soul of my **mother and father** for their blessings throughout my study. My special thanks to my **sisters and friends** for supporting me financially, morally and manually in time, without which I would not have completed this study.

SYNOPSIS

An experimental study to assess the effectiveness of yoga upon stress among post menopausal women in selected areas of Chennai.

The Objectives of the study were

1. To find out the stress level among post menopausal women in selected areas of Chennai.
2. To assess the effectiveness of yoga among postmenopausal women.
3. To find out the association between selected variables and the level of stress among the control and experimental groups of post menopausal women.
4. To assess the level of satisfaction regarding yoga among the experimental group of post menopausal women.

Null Hypotheses

Ho1: There will be no significant difference in stress scores among post menopausal women before and after yoga in the experimental and control groups.

Ho2: There will be no significant association between selected variables and level of stress among post menopausal women before and after of yoga in the experimental and control groups.

Conceptual framework of this study was based on Roy‘s adaptation Model of conceptualization of stress adaptation which was modified for the present study. An extensive review of literature and guidance by experts laid the foundation to the

development of proforma, Perceived stress scale and level of satisfaction. An experimental approach with two group pre test and post test design was adopted for the study. The present study was conducted at selected villages in Chennai at Ayanambakkam, The sample size was 60 and they were selected randomly by simple random sampling of which 30 were assigned to the control group and 30 were assigned to the experimental group after randomization.

The investigator used four types of tools to collect data from the post menopausal women. The data collection tools were validated and reliability was established. After the pilot study, the data collection of the main study was done. Yoga was administered to all post menopausal women in the experimental group for 7 days. Stress level was assessed before and after the administration of yoga for the control and experimental groups. The collected data were tabulated and analyzed using appropriate descriptive and inferential statistics.

The major findings of the study

- In the control and experimental groups majority of them were married (80%, 97%), house wives (73%, 87%), dependent (73%, 87%) and all of them were non vegetarian (100%, 100%). Their age group was between 51-55 (33%, 50%) and they belonged to Hindu religion (40%, 56%), illiterate (66%, 66%), living in nuclear family (67%, 47%) and had family income of <3000 (63%, 54%). Twenty seven percentage of them in the control group and 13% of them in the experimental group were moderate workers. Forty seven percentage in the control group and 37% in the experimental group had 3 children.

- In this present study majority of them had knee and joint pain (97%, 87%) and sleep disturbances (87%, 93%) in the control and experimental groups. Most of them had over weight problem (66%, 50%) and only some of them had diagnosed problems such as Hypertension (27%, 20%), Diabetes (20%, 20%).

- The mean and standard deviation of stress level in pretest and post test in the control group was 39 ± 9 and 37 ± 8 ($p>0.05$) whereas in the experimental group it was 40 ±8 and 27± 5 ($p<0.001$) which indicated that yoga is effective in reducing the stress level among postmenopausal women. Thus the null hypothesis Ho1 was rejected.

- There was no association between selected demographic variables and the stress level before and after yoga in the control and experimental.

- There was no significant association between selected clinical variables and the stress level before and after yoga in the experimental group.

- There was no significant association between selected clinical variables and the stress level before and after yoga in the control group except for the variable of duration after menopause.

- Majority of the clients were highly satisfied (77%) and significant percentage of them were satisfied (23%) with the intervention (yoga).

Recommendations

- The same study could be conducted on a large sample for longer duration to generalize the results.
- A similar study could be conducted in different age groups to assess the effectiveness of yoga.
- A comparative study could be conducted to evaluate the effectiveness of yoga with other relaxation techniques.
- It may be conducted in different settings.

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APPENDIX – 1A

LETTER SEEKING PERMISSION TO CONDUCT THE STUDY

Apollo College of Nursing

(Recognized by the Indian Nursing Council and Affiliated to the Tamil Nadu Dr. M.G.R. Medical University, Chennai)

Co/0253/09 Date:

To

The Ward Counselor

Ayanambakkam,

Chennai – 600 095.

Respected Sir/ Madam,

Subject: Requesting permission for research study-Reg

Greetings! As a part of the curriculum requirement, our Second year M.Sc Nursing Student, Ms. ……..has selected the following title for her research study.

"An Experimental study to assess the effectiveness of yoga upon stress among post menopausal women in selected villages at Ayanambakkam, Chennai."

So I kindly request your good self to permit her to use the resource materials for the above mentioned candidate.

Thanking you,

DR. LATHA VENKATESAN

PRINCIPAL

IS/ ISO 9001: 2000

Vanagaram to Ambattur Main Road, Ayanambakkam, Chennai – 600 095.Ph: 044 – 2653 4387 Tele fax : 044 – 2653 4923 / 044 – 2653 4386

APPENDIX – 1B

LETTER SEEKING PERMISSION FROM THE SETTING.

Apollo College of Nursing

(Recognised by the Indian Nursing Council and Affiliated to the Tamil Nadu Dr. M.G.R. Medical University, Chennai)

CO/0953/10 **13.05.10**

To

Respected Sir / Madam,

Sub.: To request permission for research study – Reg.

Greetings! As part of the curriculum requirement our 2nd year M. Sc. (N) student **Ms.Kalaiarasi.P.** has selected the following title for her research study.

"An experimental study to assess the effectiveness of yoga upon stress among Post menopausal women in selected villages at Ayanambakkam,chennai .

So I kindly request your goodselves to permit her to use the resource materials for the above-mentioned candidate.

Thanking You,

S.சகுந்தலா

S. சகுந்தலா சந்தோசம் M.C.
முன்றாம் நிலை நகராட்சி
திருவேற்காடு

Dr. LATHA VENKATESAN
PRINCIPAL

S. சகுந்தலா சந்தோசம் M.C.
முன்றாம் நிலை நகராட்சி
திருவேற்காடு

IS/ISO 9001:2000

Vanagaram to Ambattur Main Road, Ayanambakkam, Chennai - 600 095.
Ph. : 044 - 2653 4387 Tele fax : 044 - 2653 4923 / 044- 2653 4386

APPENDIX – 1C

ETHICS COMMITTEE LETTER

Ethics Committee

Apollo HOSPITALS
TOUCHING LIVES

14 July, 2010

To,
Ms. Kalaiarasi.P
Final Year M.Sc (Nursing)
Apollo College of Nursing, Chennai
Tamil Nadu, India

Ref: An experimental study to assess the effectiveness of yoga upon stress among postmenopausal women in selected villages at Ayanambakkam, Chennai.

Sub: Your letter dated 06 July 2010 for approval of the above referenced project and its related documents

Dear Ms. Kalaiarasi.P,

Ethics committee – Apollo Hospitals has received the following document submitted by you related to the conduct of the above – referenced study.

- Project Proposal titled "An experimental study to assess the effectiveness of yoga upon stress among postmenopausal women in selected villages at Ayanambakkam, Chennai."
- Study Proforma

Ethics Committee Apollo Hospitals reviewed and discussed the above-mentioned documents presented by you related to the conduct of above-referenced study at its meeting held on 13 July, 2010.

The following Ethics Committee members were present at the meeting held on 13 July, 2010

Name	Profession	Position in the committee
Mr. S. S. Narayanan	Ethicist	Chairman
Dr. Radha Rajagopalan	Clinician	Vice – Chairman
Ms. Jayanthi Swaminathan	Clinical Project Manager	Member Secretary
Dr. V. Balaji	Clinician	EC-Member
Dr. C. Paul Dilip Kumar	Clinician	EC-Member
Dr. K. C. Krishnakumar	Clinician	EC-Member

Apollo Hospitals Enterprise Limited
21, Greams Lane, Off Greams Road, Chennai – 600 006
Tel: 91 – 44 - 2829 3333 Extn: 6008, 91 – 44 - 2829 4439 Extn: 6639 Fax: 91 – 44 – 28294449
E - Mail: ecapollochennai@gmail.com

Ethics Committee

Name	Profession	Position in the committee
Dr. Clive Fernandes	Consultant Clinical Pharmacologist	Basic Medical Scientist
Ms. Maimoona Badsha	Lawyer	Lawyer
Mrs. Chandra Jebaseelan	Nursing Superintendent	EC-Member
Dr. P. Nalini Rao	Social Worker	EC-Member
Miss. N. Suseela	Retired English Teacher	Layperson

After due ethical and scientific consideration, the Ethics Committee has approved the above presentation submitted by you.

The Ethics Committee is constituted and works as per ICH-GCP, ICMR and revised Schedule Y guidelines.

Yours sincerely,

Radhakrishnan

Date 14/7/10

Dr. Radha Rajagopalan
Ethics Committee – Vice Chairman
Apollo Hospitals, Chennai

DR. RADHA RAJAGOPALAN
Vice Chairman
Ethics Committee
Apollo Hospitals Enterprise Limited
Chennai-600 006. Tamil Nadu.

Apollo Hospitals Enterprise Limited
21, Greams Lane, Off Greams Road, Chennai – 600 006
Tel: 91 – 44 - 2829 3333 Extn: 6008, 91 – 44 - 2829 4439 Extn: 6639 Fax: 91 – 44 – 28294449
E - Mail: ecapollochennai@gmail.com

APPENDIX – 1D

PLAGIARISM ORIGINALITY REPORT

APPENDIX – 1D

PLAGIARISM ORIGINALITY REPORT

Plagiarism Detector - Originality Report

Plagiarism Detector Project: [www.plagiarism-detector.com] Application core verrsion: 331

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Queries Sent Count:	56
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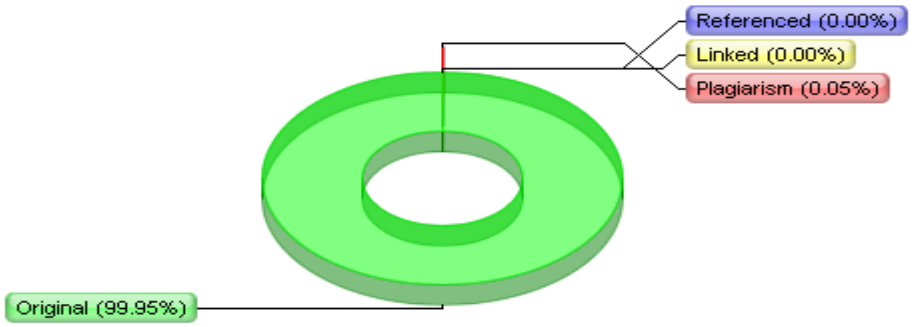
Plagiarism Detection Chart:



Referenced 0% / Linked 0%

Original - 100% / 0% - Plagiarism

APPENDIX – 1E

LETTER SEEKING PERMISSION TO USE THE TOOL

YAHOO! MAIL INDIA Classic

RE: permission request Monday, 26 April, 2010 6:50 PM

From: "Ellen Conser" <conser@andrew.cmu.edu>
To: "'Kalairasi Palani'" <kalaiarasi_80@yahoo.co.in>

Kalaiarasi,

Permission to use the PSS is granted at no cost by Dr. Cohen for nonprofit research purposes such as yours. Unfortunately we do not have a Tamil translation. If you choose to create one, we would be grateful to receive a copy to post on our website. Your generosity would assist researchers who in the future request a Tamil translation.

Sincerely,

Ellen Conser
Assistant to Dr. Sheldon Cohen
Department of Psychology
Carnegie Mellon University

From: Kalairasi Palani [mailto:kalaiarasi_80@yahoo.co.in]
Sent: Friday, April 23, 2010 6:00 AM
To: conser@andrew.cmu.edu
Subject: permission request

Respected sir

This is Kalaiarasi Msc(N) student from India . I would like to use your Perceived stress scale for my research purpose so i request you to permit me to use your scale and i also request you to send the Tamil version of the scale if available.

Thanking you

APPENDIX 2A

LETTER REQUESTING OPINIONS AND SUGGESTIONS OF EXPERTS

FOR ESTABLISHING CONTENT VALIDITY OF RESEARCH

From

Ms.Kalaiarasi

M.Sc.(Nursing) II year

Apollo College of Nursing

Chennai-95

To

Through: Dr. Latha Venkatesan,

Principal,

Apollo college of Nursing.

Sub: Request for opinions and suggestions of expert for establishing content validity of Research tool.

Respected Madam,

Greetings! As a part of the Curriculum Requirement the following research title is selected for the study.

"An experimental study to assess the effectiveness of yoga upon stress among post-menopausal women in selected villages at Ayanambakkam, Chennai"I will be highly privileged to have your valuable suggestions with regard to the establishment of content validity of Research tool. So I request you to validate my Research tool and give suggestions about the tool.

Thanking you,

Yours sincerely,

(Ms.P.Kalaiarasi)

Place:

Date:

APPENDIX 2B

CONTENT VALIDITY CERTIFICATE

I hereby certify that I have validated the research tool of Ms.P.Kalaiarasi M.Sc. (Nursing) student who is undertaking research study. **"An experimental study to assess the effectiveness of yoga upon stress among post menopausal women in selected villages at Ayanambakkam, Chennai"**

Signature of Expert

APPENDIX – 2C

LIST OF EXPERTS FOR CONTENT VALIDATION

1. **Dr.Latha Venkatesan,**
   M.Sc., (N), M.Phil, Ph.D.,
   Principal,
   Apollo College of Nursing,
   Chennai-95

2. **Dr. Sarath Battina**,
   M.D., DGO.,
   Head of the Department,
   Department of Obstetrics and Gynecology,
   Apollo Hospitals,
   Chennai- 06.

3. **Prof.K.Vijayalakshmi,**
   M.Sc (N)., Ph.D.,
   Head of the Department,
   Department of Psychiatric Nursing,
   Apollo College Of Nursing,
   Chennai-95

4. **Ms. Jaselina David,**M.Sc (N)
   Asst.Professor,
   Medical surgical Nursing Department,
   Apollo College of Nursing,
   Chennai- 95

5. **Mrs. Stella Mary,** M.Sc(N)
   Lecturer,
   Department of Psychiatric Nursing,
   Apollo college of Nursing,
   Chennai – 95

APPENDIX – 3

RESEARCH PARTICIPANT CONSENT FORM

I am an M.Sc., Nursing student of Apollo College of Nursing, Chennai. As a part of my studies a research on **"An Experimental study to assess the effectiveness of yoga upon stress among post menopausal women in selected villages at Ayanambakkam, Chennai"** is selected to be conducted. The findings of the study will be helpful in reducing stress level and improving the quality of life of postmenopausal women.

I hereby seek your consent and co-operation to participate in the study. Please be frank and honest in your responses. The information collected will be kept confidential and anonymity will be maintained.

Signature of the researcher

I……hereby give my consent to be a research participant for the above mentioned study.

Signature of the Participant.

APPENDIX – 3A

Muha;r;rpapy; gq;FngWNthWf;fhd xg;Gjy; gbtk;

md;ghh;e;j gq;FngWNthNu>

ehd; mg;NghNyh nrtpypah; fy;Y}hapy; KJepiy nrtpypah; gapw;rp ngWk; khztp. vd;Dila gapw;rpapd; xU gFjpahf khjtpyf;F mile;j ngz;fspd; kd mOj;jj;ij Fiwg;gjpy; Nahfhtpd; gq;fpid gw;wp Ma;T nra;a cs;Nsd;. ,e;j Muha;r;rpapd; KbTfs; ,J Nghd;w kd mOj;jj;ij Fiwg;gjw;F cjtpahf mikAk;. ,jdhy; ,e;j Muha;r;rpapy; ePq;fs; gq;Fngw cq;fSila xg;Gjy; kw;Wk; xj;Jiog;igAk; Ntz;LfpNwd;. jaT nra;J cq;fSila gjpy; ntspg;gilahfTk;> cz;ikahfTk; ,Uf;fl;Lk;. cq;fSila Fwpg;Gfs; ,ufrpakhf itf;fg;gLk; kw;Wk; cq;fSila ngah; vq;NfAk; ntspaplg;glkhl;lhJ.

Muha;r;rpahshpd; ifnahg;gk;

…….. vd;w ehd; ,e;j Muha;r;rpapy; gq;F ngw xg;Gjy; mspf;fpNwd;.

gq;F ngWNthhpd; ifnahg;gk;

APPENDIX – 4A

CERTIFICATE FOR YOGA

AJNA

The Third Eye...

YOGA & NATUROPATHY CLINIC

Date: 31/03/10

CERTIFICATE

This is to certify that ***Ms. P. Kalaiarasi,*** *a student of M.Sc. Nursing from Apollo College of Nursing, Chennai – 95, has done her training in Effectiveness of Yoga upon Stress among Postmenopausal Women" at* ***Ajna Yoga & Naturopathy Clinic, Chennai – 40*** *from 01.03.10 to 31.03.10. She had been trained in that topic. During that period, she acquitted herself well. She was prompt in her duty and her conduct has been good.*

AJNA CHENNAI-40 DATE 31/03 NATUROPATHY & YOGA CLINIC

(Dr.J.K.EZRA VINCENT)
Medical Officer

AH-216, 2nd Street, 8th Main Road, Shanthi Colony, Anna Nagar, Chennai-600040
Ph: 044-32913566 Mobile: 9840181293

APPENDIX - 4B

CERTIFICATE FOR ENGLISH EDITING

TO WHOMSOEVER IT MAY CONCERN

This is to certify that the "**An Experimental study to assess the effectiveness of yoga upon stress among post menopausal women in selected villages at Ayanambakka, Chennai**" by Ms.Kalaiarasi.P, II Year M.Sc. (Nursing) student, Apollo College of Nursing was edited for English language appropriateness by Mr/Ms. B. KUMARAN.

B. Cumaran
Signature

B. KUMARAN, M.A., M. Phil., B.Ed.,
Lecturer (SS) in English
Guru Nanak College
Velachery, Chennai-42.

APPENDIX – 4C

CERTIFICATE FOR TAMIL EDITING

TO WHOMSOEVER IT MAY CONCERN

This is to certify that the tool Demographic variables proforma, Clinical variable proforma, Perceived stress scale on stress level of post menopausal women, Rating scale on level of satisfaction of yoga translated by Ms.Kalaiarasi.P, II Year M.Sc., (Nursing) student, Apollo College of Nursing for her dissertation "**An Experimental study to assess the effectiveness of yoga upon stress among post menopausal women in selected villages at Ayanambakkam , Chennai"** was edited by ..Dr. M. MURTHI

Signature

Dr. M. MURTHI
Asst. Professor & Head
Department of Tamil
Guru Nanak College,
Chennai-600 042.

APPENDIX – 5A

DEMOGRAPHIC VARIABLE PROFORMA

Purpose

This proforma is used to measure the demographic variables such as age, religion, marital status, educational status, occupational status, family income, financial status, type of family, number of children, and nature of work and food habits.

Instructions

- Please give your frank responses to the questions given below.
- The data will be collected through personal interview

1. Age In Years

1.1 40 -45 ☐

1.2 46 -50 ☐

1.3 51 -55 ☐

2. Religion

2.1 Hindu ☐

2.2 Christian ☐

2.3 Muslim ☐

2.4 Others (specify) ☐

3. Marital Status

3.1 Married ☐

3.2 Unmarried ☐

3.3 Seperated/divorced ☐

3.4 Widow ☐

4. Educational Status

4.1 Illiterate ☐

4.2 Primary education ☐

4.3 Secondary education ☐

4.4 Higher secondary ☐

4.5 College and above ☐

5. Occupational Status

5.1 Employed in some organization ☐

5.2 Coolie ☐

5.3 House wife ☐

6. Family Income/ Month

6.1 < 3000 ☐

6.2 3000 - 5000 ☐

6.3 5001 – 8000 ☐

6-4 >8000 ☐

7. Financial Status

7.1 Independent ☐

7.2 Dependent ☐

8. Type of Family

8.1 Joint family ☐

8.2 Nuclear family ☐

8.3 Extended family ☐

9. Number of Children

9.1 1 ☐

9.2 2 ☐

9.3 3 ☐

9.4 >3 ☐

9.5 Nil ☐

10. Nature of Work

10.1 Sedentary work ☐

10.2 Moderate work ☐

10.3 Heavy work ☐

10.4 Not working ☐

11. Food Habits

11.1 Vegetarian ☐

11.2 Non vegetarian ☐

APPENDIX – 5A

FLk;gNtWghl;Lf;fhd gbtk;

Nehf;fk;

,e;j gbtk; FLk;g NtWghLfshf taJ> kjk;> jpUkz epiy> fy;tpj; jFjp> Ntiy> FLk;g tUkhdk;> tUtha; epiy> Foe;ijfspd; vz;zpf;if> Ntiyapd; ,ay;G kw;Wk; czTg; gof;ftoq;fq;fisf; fz;lwpa cjTfpwJ.

tpjpKiwfs;

- fPo;fz;l tpdhf;fSf;F ntspg;gilahf gjpyspf;fTk;.
- Ma;thsh; gq;Nfw;ghshplk;> Neh;Kf Njh;tpd; %yk; tptuq;fisr; Nrfhpg;ghh;.

1. taJ

1.1. 40 – 45 ☐

1.2. 46 – 50 ☐

1.3. 51 – 55 ☐

2. kjk;

2.1. ,e;J ☐

2.2. fpwp];Jth; ☐

2.3. K];ypk; ☐

2.4. kw;wit (Fwpg;gplTk;) ☐

3. jpUkz epiy

3.1. jpUkzkhdth; ☐

3.2. jpUkzkhftpy;iy ☐

3.3. gphpe;Jtpl;lth; / tpthfuj;J Mdth; ☐

3.4. tpjit

4. fy;tpj; jFjp

4.1. fy;tpawptw;wth; ☐

4.2. Muk;gf;fy;tp ☐

4.3. ,uz;lhk; epiyf;fy;tp ☐

4.4. Nky;epiyf;fy;;tp ☐

4.5. fy;Y}hp fy;tp (,sepiy / KJepiy) ☐

5. njhopy;

5.1. VNjDk; epWtdj;jpy; Ntiy ghh;g;gth; ☐

5.2. $yp ☐

5.3. FLk;gj; jiytp ☐

6. FLk;g tUkhdk;

6.1. <3000 ☐

6.2. 3000 – 5000 ☐

6.3. 5001 – 8000 ☐

6.4. >8000 ☐

7. tUtha; R+o;epiy

7.1. kw;wtiur; rhh;e;J ☐

7.2. jd;dpr;irahf ☐

8. FLk;g tif

8.1. $l;Lf;FLk;gk; ☐

8.2. jdp FLk;gk;

8.3. gue;j FLk;gk;

9. Foe;ijfspd; vz;zpf;if

9.1. 1 ☐

9.2. 2 ☐

9.3. >3 ☐

9.4. ,y;iy ☐

10. Ntiyapd; ,ay;G

10.1. kpjkhd Ntiy ☐

10.2. mjp kpjkhd Ntiy ☐

10.3. gSthd Ntiy ☐

10.4. Ntiyapy; ,y;iy ☐

11. czTg; gof;fk;

11.1. irtk; ☐

11.2. mirtk; ☐

APPENDIX – 5B

CLINICAL VARIABLE PROFORMA

purpose

This proforma is used to measure the clinical variables such as height, weight, body mass index, chronic illnesses, duration after menopause and menopausal symptoms

Instructions

- Please answer the following questions
- Please be frank and free in answering
- The responses will be kept confidentially

1. Height…….Cms

2. Weight…….Kgs

3. Body Mass Index

3.1 <20 ☐

3.2 20-25 ☐

3.3 26-30 ☐

3.4 >30 ☐

4. Any Chronic Illness Present

4.1 Yes ☐

4.2 No ☐

5. History of illness

5.1 Hypertension ☐

5.2 Diabetes mellitus ☐

5.3 Both ☐

5.4 Others ☐

5.4 Nil ☐

6. Duration of Hypertension

6.1 <2 year ☐

6.2 3-5 years ☐

6.3 >5 years ☐

6.4 Nil ☐

7. Duration of Diabetes Mellitus

5.1 <2 years ☐

5.2 3-5 years ☐

5.3 >5 year ☐

5.4 Nil ☐

8. Duration After Menopause

6.1 1-2 year ☐

6.2 3-5 years ☐

6.3 >5years ☐

9. Knee and Joint Pain

7.1 Yes ☐

7.2 No ☐

10. Sleep Disturbance

8.1 Yes ☐

8.2 No ☐

APPENDIX – 5B

kUj;Jt NtWghl;bw;fhd gbtk;

Nehf;fk;

,e;j gbtk; kUj;J NtWghLfshd cauk;> vil> clk;G gug;gsT> ePz;lfhy Neha;fs; kw;Wk; khjtplha; Row;rp epWj;jj;jpd; fhy tiuaiw> khjtplha; Row;rp epWj;jj;jpd; Vw;gLk; mwpFwpfis fz;lwpa cjTfpwJ.

tpjpKiwfs;

- fPo;fz;l tpdhf;fSf;F gjpyspf;fTk;.
- ntspg;gilahfTk;> ,yFthfTk; gjpyspf;fTk;
- cq;fs; gjpy;fs; ,ufrpakhf itf;fg;gLk;.

1. cauk; …… nr.kP

2. vil ……. fp.fp

3. clk;G gug;gsT

3.1. <21 ☐

3.2. 20 – 25 ☐

3.3. 26 – 30 ☐

3.4. >31 ☐

4. VNjDk; ePz;lfhy Neha;fs; ,Uf;fpd;wdth?

4.1. Mk; ☐

4.2. ,y;iy ☐

5. ePz;lfhy Neha;fs; ,Ug;gpd;> Nehiaf; Fwpg;gplTk;

5.1. ,uj;j nfhjpg;G ☐

5.2. rh;f;fiu Neha; ☐

5.3. ,uz;Lk; ☐

5.4. ,y;iy

6. ,uj;j nfhjpg;G Nehapd; fhytiuaiw

6.1. <2 tUlq;fs;

6.2. 3 – 5 tUlq;fs;

6.3. >5 tUlq;fs;

6.4. ,y;iy

7. rh;f;fiu Nehapd; fhytiuaiw

7.1. < 2 tUlq;fs;

7.2. 3 – 5 tUlq;fs;

7.3. >5 tUlq;fs;

7.4. ,y;iy

8. khjtplha; Row;rp epWj;jj;jpd; fhy tiuaiw

8.1. 1-2 tUlk;

8.2. 2 – 5 tUlq;fs;

8.3. >5 tUlq;fs;

9. %l;L kw;Wk; ,izg;G %l;Lfspy; typ ,Uf;fpwjh?

9.1. Mk;

9.2. ,y;iy

10. J}q;Ftjpy; rpukq;fs; ,Uf;fpd;wjh?

10.1. Mk;

10.2. ,y;iy

APPENDIX – 5C

BLUE PRINT OF PERCEIVED STRESS SCALE

S. No	Domain	Item No	Total No of items	percentage
1	Psychological	1,2,10,11,12,14	6	43%
2	Problem solving	3.4,6,7,13	5	36%
3	Coping	5,8,9	3	21%

APPENDIX – 5C

PERCEIVED STRESS SCALE

Purpose

This perceived stress scale is used by the researcher to assess the stress level of post menopausal women.

Instructions

The questions in this scale ask you about your feelings and thoughts during last month. In each case, you felt or thought a certain way. Although some of the questions are similar, there are differences between them and you should treat each one as a separate question. The best approach is to answer each question fairly and quickly. Don't try to count up the number of times you felt particular way, but rather indicate the alternative that seems like a reasonable estimate.

Tick the appropriate answer in the column/box

S.No	Item	0 Never	1 Almost never	2 Some times	3 Fairly often	4 Often
1.	How often have you been upset because of something that happened unexpectedly?					
2.	How often have you been nervous and stressed?					

3.	How often have you felt that you were unable to control the important things in life?					
4.	How often been you dealt successful with irritating life hassles?					
5.	How often have you felt that you were effectively coping with important changes that were occurring in your life?					
6.	How often have you felt confident about your ability to handle your personal problems?					
7.	How often have you felt that things were going your way?					
8.	How often have you felt that you could not cope with all the things that you had to do/					
9.	How often have you been able to control irritation in your life?					

10.	How often have you felt that you were on top of the things?					
11.	How often have you been angered because things that happen were out of your control?					
12.	How often have you found yourself thinking about things that you have to accomplish?					
13.	How often have you been able to control the way you spend your time?					
14.	How often have you felt that difficulties were piling up no high that you could not overcome them?					

Scoring

Scores are obtained by reversing the scores on the seven positive items, e.g., 0=4, 1=3, 2=2, etc., and then summing across all 14 items 4,5,6,7,9,10 and 13 are the positively stated items.

≤27 - Mild

28-41 - Moderate

>41 - Severe

APPENDIX – 5C

cl;fpufpf;fg;gl;l kd mOj;j msTNfhy;

Nehf;fk;

,e;j msTNfhy; khjtplha; Row;rp mile;j ngz;fspd; kd mOj;jj;ij fz;lwpa Ma;thsuhy; gad;gLj;jg;gLfpwJ.

tpjpKiwfs;;

fle;j khjj;jpy; cq;fs; czh;TfisAk;> vz;zq;fisAk; gw;wpa Nfs;tpfs; ,e;j msTNfhypy; cs;sd. xt;nthU Nfs;tpAk; jhq;fs; czh;e;j my;yJ cq;fs; kdjpy; Njhd;wpa tpjj;ij cs;slf;fpaJ. rpy Nfs;tpfs; xd;whf ,Ug;gpDk; mtw;wplilNa NtWghLfs; cz;L. ePq;fs; xt;nthU Nfs;tpiaAk;> jdpj;jdpahf ghtpj;J gjpyspf;f Ntz;Lk;. xt;nthU Nfs;tpf;Fk; rhpahf> tpiuthf gjpyspg;gNj rpwe;j KiwahFk;. mjhtJ vj;jid Kiw xNu tpjkhf czh;e;jPh;fs; vd;W vz;zhky; rhpahd fzpg;ghf Njhd;wf;$ba kw;w gjpy;fisAk; Fwpg;gplTk;.

kpfr; rhpahd gjpiy fl;lj;jpw;Fs; Fwpg;gplTk;.

t.vz;	Nfs;tp	0 vg;nghOJk; ,y;iy	1 ,y;iy	2 vg;nghOjhtJ	3 Mjpfkhf	4 kpf mjpfkhf
1.	vjph;ghuhj tpjkhf rpy tp\aq;fs; epfo;e;Jtpl;ljw;fhf vj;jid mjpfkhf tUe;jPdph;fs;?					
2.	vj;jid mjpfkhf kd mOj;jk; kw;Wk;					

	gjl;lkhfpwPh;fs;?					

3.	tho;f;ifapy; kpf Kf;fpakhd tp\aq;fis fl;Lf;Fs; nfhz;Ltu ,ayhjjhf vj;jid mjpfkhf czh;e;jPh;fs;?					
4.	vj;jid mjpfkhf cq;fs; tho;f;ifapy; vhpr;rY}l;Lk; tp\aq;fis ntw;wpfukhf rkhspj;jPh;fs;?					
5.	cq;fs; tho;f;ifapy; Kf;fpakhd khw;wq;fis gydspf;f $ba tifapy; rkhspj;jhf vj;jid mjpkhf czh;e;jPh;fs;?					
6.	nrhe;jg;gpur;ridfis rkhspf;f $ba cq;fspd; ,ay;igg;gw;wp vj;jid mjpfkhf> ek;gpf;ifahf czh;fpwPh;fs;?					
7.	cq;fspd; fl;Lghl;bNyNa tp\aq;fs; nry;tjhf vj;jid mjpkhf czh;fpwPh;fs;?					
8.	ePq;fs; nra;J Kbf;f Ntz;ba tp\aq;fis rkhspf;f ,ayhjjhf vj;jid mpfkhf czh;fpwPh;fs;?					

9.	cq;fs; tho;f;ifapy; vhpr;rYl;Lgitffis vj;jid mjpfkhf fl;Lg;gLj;j ,ay;fpwJ?					
10.	msTf;F mjpfkhf gpur;ridfs; ,Ug;gjhf vj;jid mjpfkhf czh;fpwPh;fs;?					
11.	cq;fshy; fl;Lg;gLj;j ,ayhj tp\aq;fs; epfo;e;jjw;fhf vj;jid mjpfkhf Nfhgk; mile;jpUf;fpwPh;fs;?					
12.	ePq;fs; nra;J Kbf;f Ntz;ba tp\aq;fisg;gw;wp vz;zpnfhz;bUg;gjhf vj;jid mjpfkhf cq;fis ePq;fNs czh;e;jPh;fs;?					
13.	cq;fspd; Neuj;ij eph;tfpf;Fk; tpjk; vj;jid mjpfkhf cq;fspd; fl;Lg;ghl;by; ,Ue;jpUf;fpwJ?					
14.	cq;fshy; fle;J tu ,ayhj mstpw;F fbdq;fs; mLf;fg;gl;Lf; nfhz;Nl Nghtjhf vj;jid mjpfkhf czh;e;jPh;fs;?					

APPENDIX-5D

BLUE PRINT ON THE LEVEL OF SATISFACTION OF YOGA

S. No	Content	Item No	Total No of items	Percentage
1	Yoga practice	1, 2, 3, 4	4	33.3%
2	Out come of yoga	5, 6, 7, 8	4	33.3%
3	Researcher's approach	9, 10, 11, 12	4	33.3%

APPENDIX-5D

RATING SCALE ON THE LEVEL OF SATISFACTION OF YOGA

Purpose

This rating scale is used to assess the level of satisfaction of the participants regarding yoga practice

Instructions

Please give your frank responses to the questions given below. The information will be kept confidentially and will be used for research purpose only.

S.no	Item	Highly Satisfied 4	Satisfied 3	Dissatisfied 2	Highly Dis Satisfied 1
1.	I feel more comfortable about yoga practice				
2.	Duration of yoga practice is convenient for me				
3.	I like to do it regularly				
4.	It improves my self image				
5.	I experience decrease in mental stress				
6.	My mind is relaxed after breathing exercise				
7.	It improves my inner feelings and peace of mind.				

8.	I am able to cope up with stress effectively				
9.	The researcher explained clearly about the intervention				
10.	The researcher cleared all the doubts I had about the intervention				
11.	I am satisfied with the manner of demonstration				
12.	The researcher was present throughout the procedure				

Level of satisfaction

Score	**Percentage**	**Level of Satisfaction**
≥ 36	<76 - 100%	Highly satisfied
23-35	50 - 75%	Satisfied
11-22	25 - 49	Dissatisfied
≤ 10	<25	Highly dissatisfied

APPENDIX – 5D

Nahfhit gw;wpa jpUg;jpia msf;Fk; ju msTNfhy;

Nehf;fk;

,e;j ju msTNfhy; Nahfhitg;gw;wpa jpUg;jpia mstpl Ma;thsuhy; gad;gLj;jg;gLfpwJ.

tpjpKiwfs;

- fPo;fz;l tpdhf;fSf;F ntspg;gilahf gjpyspf;fTk;
- ,e;j jfty;fs; ,ufrpakhf fhf;fg;gLk; kw;Wk; Ma;T Nehf;fj;jpw;F kl;LNk gad;gLj;jg;gLj;jg;gLk;.

t.vz;	Nahfh gw;wpa tpsf;fk;	mjpUg;jp	jpUg;jp	jpUg;jp ,y;iy	kpfTk; jpUg;jp ,y;iy
1.	Nahfh gapw;rp gw;wp trjpahf czh;fpNwd;.				
2.	Nahf gapw;rpapd; mtfhrk; trjpahf ,Uf;fpwJ.				
3.	jpdKk; njhlh;e;J gapw;rp nra;a tpUk;GfpNwd;.				
4.	vd; Rakjpg;ig mjpfhpf;fpwJ				
5.	Kd mOj;jk; Fiw;jpUg;gjhf czh;fpNwd;.				
6.	Rthr gapw;rpapd; gpd; vd; kdJ MRthrkhapUf;fpwJ.				

7.	vd; kd czh;Tfis nkUNfw;wp kd mikjpiaj; jUfpwJ.				
8.	Kd mOj;jj;ij rkhspf;f KbfpwJ.				
9.	Ma;thsh; Nahfhitg;gw;wp njspthf tpsf;fpdhh;.				
10.	Ma;thsh; Nahfhitg;gw;wpa vd; re;Njfq;fis njspTgLj;jpdhh;.				
11.	Ma;thshpd; Nahfhitg;gw;wpa nra;Kiw tpsf;fk; jpUg;jpahf ,Ue;jJ.				
12.	Ma;thsh; gapw;rp KOtJk; cldpUe;jhh;.				

APPENDIX – 6

STRUCTURED TEACHING PROGRAMME ON YOGA

Topic: Yoga for postmenopausal women

Group: Postmenopausal women

General Objective:

At the end of the programme, the postmenopausal women will gain adequate knowledge and understanding regarding yoga and develop desirable attitudes and skills in practicing yoga.

Specific Objectives:

The postmenopausal women are able to

- define Yoga
- enlist changes of stress
- discuss management of stress
- practice yoga

Introduction

Stress is an alteration in the function of the mind and body due to changes in physical, emotional and social environment. Stress is difficult to define because it is subjective sensation associated with varied symptoms that differ much from each other. Stress produces a state of physical and mental tension that leads to adverse effects on the body. So it is necessary to take measures like yoga, meditation, music etc to reduce stress. Yoga is found to be effective in reducing stress by the researchers.

Definition of Yoga

It refers to the therapy in which the union of body and mind by three dimensions such as breath control (seethalipranayama), simple meditation (pranayama) and holding specific body postures (warm up exercises, vajrasana and shashangasana) which are widely practiced for health and relaxation.

Enlist Changes of stress

Physiological changes produce psychological stress among postmenopausal women. It can affect many aspects of their life. Emotional reactions vary from person to person.

Physical symptoms

Headache, back pain indigestion, tight neck and shoulders, stomach pain, racing heart, sweaty palms, restlessness.

Behavioral symptoms

Grinding teeth, increase in use of alcohol, compulsive gum chewing, compulsive eating, criticizing others and inability to get things done.

Emotional symptoms

Crying, overwhelming sense of pressure, nervousness, anxiety, anger, feeling that there is no meaning in life, loneliness. (Dr. Herbert Benson 2010).

Management of stress

Relaxation therapy is an effective means of reducing the stress response in some individuals. Deep relaxation can counteract the physiological and behavioral manifestations of stress. Various methods of relaxation therapy were presented; deep breathing exercise, progressive relaxation, passive progressive relaxation, meditation, music, biofeedback, physical exercises, yoga etc.

Yoga

Yoga is an external, practical science evolved over thousands of years aiming at physical, mental and spiritual well being of people. It improves physical health, enhances intelligence, mental endurance and creates sense of well being. Researchers revealed the power of yoga in reducing stress. Yoga practices result in automatic balance where the entire functioning of the body and mind get readjusted resulting in better health.

General Instructions

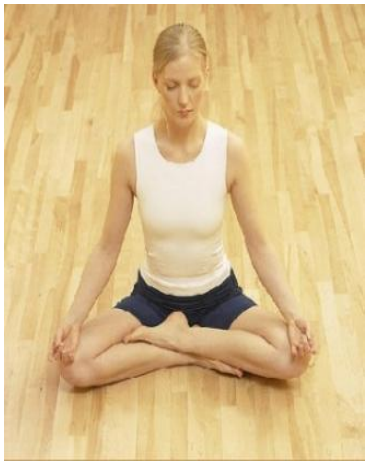
- Always do practice in clean, well ventilated place.
- Place a blanket or mat on floor and practice on it.
- Do not practice in open space against a current of cold wind and breeze.
- The convenient time is to practice either in the morning or in the evening.
- Do practice in empty stomach or 3-4 hours after taking food.
- It is advised to evacuate bladder and bowel before practice.
- Do not perform yoga immediately after taking bath.

- Follows the steps diligently so that you cover the whole routine thoroughly and methodically.
- Always keep your back and neck straight throughout the practice.
- Never do the asana in violent, jerky and forceful manner. It should be done in a slow, steady, relaxed, rythmic and graceful way relating to your capacity.
- Never be in hurry to achieve at once.

Yoga techniques

Warm up Exercises

Neck rotation: (Pawan mukta)



- Sit in Padmasana, stretch your legs forward and hands at the back.
- Keep your spinal chord and neck straight.
- Close your eyes and keep both the palms on your knees.
- Now inhale deep and move your neck backward as much as you can but do not strain.
- Remain in the same position for 2-3 seconds and feel the tensioning in the muscle.

- Now move the neck downward and try to touch the collarbone with your chin.
- Exhale completely while bringing the neck downward.

Wrist rotation

- Remain in the Sukhasana or comfortable pose.
- Stretch forward both the hands to your shoulder level.
- Keep the elbow straight and erect.
- Now form a clenched fist with the right hand, placing the thumb inside. Now rotate the clenched fist clockwise and then anti clockwise.
- Repeat this ten times

Knee bending (janu naman)

- Balance the body in the primary position.
- Bend the right knee and lift the sole above the floor.
- Hold the thighs up to the chest level
- Inhale deeply and slowly while straightening your legs.

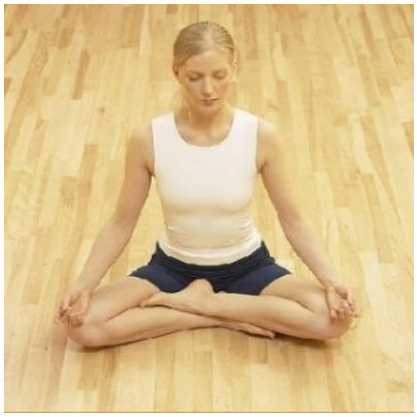
- The thighs should get back to the chest level when you exhale out.
- Practice this ten times with both the legs alternately.

Ankle rotation (Gulf Chakra)

- Get yourself in the primary position.
- Set the legs little apart and straight.
- Rotate your feet clockwise and anti-clockwise, with the heels touching the floor.
- Inhale on the upward movement.
- Exhale on the downward movement.

Pranayama

Sit in Padmasana with Chinmudra in both the hands



- Close the right nostril with thumb.
- Inhale through the left nostril.
- Hold it for some seconds as much as you can.
- Exhale slowly through the same nostril.

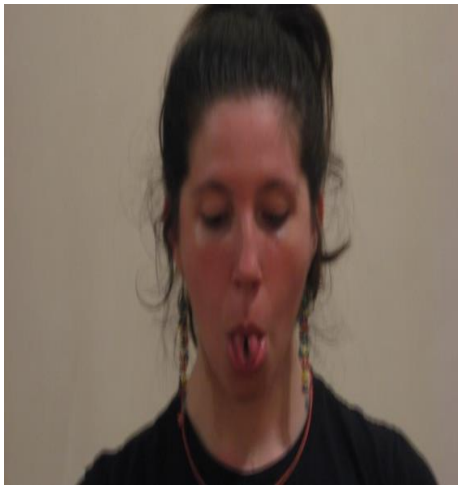
Close the left nostril with ring finger and small finger

- Inhale through the right nostril
- Hold it for some seconds as much as you can.
- Exhale slowly through the same nostril.

Alternate breathing

- Close the right nostril with thumb, inhale through the left nostril then exhale through the right nostril while following the above steps of pranayama
- Close the left nostril with ring finger and small finger, inhale through the right nostril and exhale through the left nostril while following the above steps of pranayama

Seethali pranayama

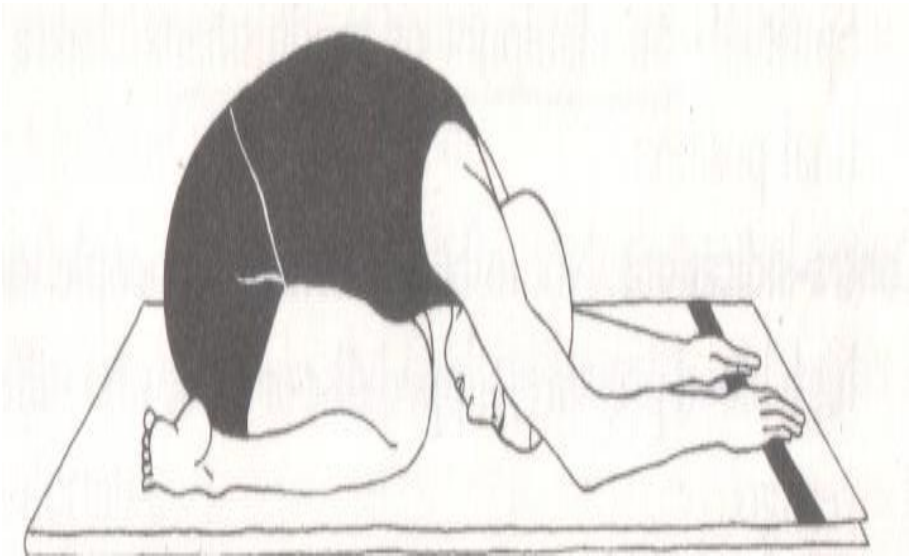


- Sit in padmasana with chinmudra.
- Fold the tongue like whistling.
- Inhale through the tongue fold hold, it for seconds as much as you can
- Exhale slowly through the same.

Vajrasana

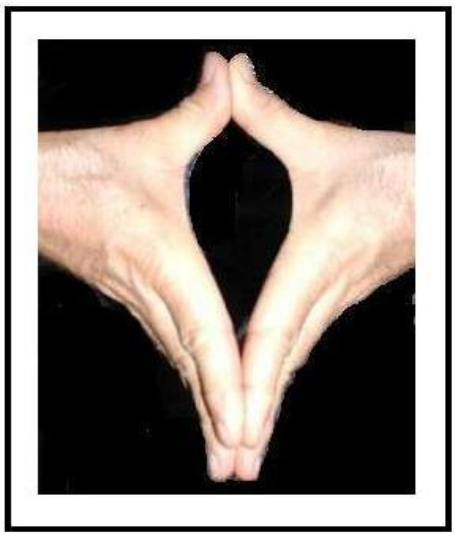
- Fold your legs, both of your knees must touch the floor and sit by resting on your buttocks
- keep both the hands on thigh.
- Inhale deeply while sitting straight
- Exhale while bending forward towards ground.

Shashangasana



- Sit in position for vajrasana.
- Intake deeply and slowly in sitting position
- While bending forward extend both the hands to touch the floor and exhale.

Yoni Muthra



- Sit in padmasana.
- Join both the thumb together and join the index finger forward to make a triangle place it on the lower abdomen.
- Inhale slowly and deeply.
- Hold it for some seconds.
- Exhale slowly.

APPENDIX – 6

Nahfhitg;gw;wpa tbtikf;fg;gl;l ghlj;jpl;lk;

jiyg;G:

khjtpyf;F epWj;jkile;j ngz;fSf;fhd Nahfh gapw;rp

gphpT:

khjtpyf;F epWj;jkile;j ngz;fs;

nghJ Nehf;fk;:

ghlj;jpd; Kbtpy; khjtpyf;F epWj;jkile;j ngz;fs; Nahfhitg;gw;wpa Nghjpa mwpitAk;> Nahfh gapw;rp KiwfisG; gw;wpAk; mwpe;J nfhs;thh;fs;.

rpwg;G Nehf;fq;fs;:

- Nahfhitg;gw;wp tiuaiw nra;jy;.
- kdmOj;jj;jpdhy; Vw;gLk; khw;wq;fis tpthpj;jy;.
- kdmOj;jj;jpw;fhd rpfpr;ir Kiwfisg;gw;wp fye;J MNyhrpj;jy;.
- Nahfh gapw;rp Kiwfisg; goFjy;.

Kd;Diu:

kdmOj;jk; vd;gJ cly;> czh;T kw;Wk; #o;epiyapd; khw;wq;fshy;> clk;G kw;Wk; kd ,af;fj;jpy; Vw;gLk; khw;wkhFk;. kdmOj;jj;ij tiuaiw nra;jy; rw;W fbdk;. Vnddpy; mJ khWgl;l mwpFwpfs; nfhz;l xUtUf;nfhUth; khWglf;$ba> jdpj;Jtkhf mwpaf;$ba czh;T. Mifahy; Nahfh> jpahdk;> ,ir Nghd;w kdmOj;jj;ij Fiwf;Fk; eltbf;fiffis Nkw;nfhs;tJ mtrpak;. kdmOj;jj;ij Fiwf;f Nahfh rpwe;jnjd;W Muha;r;rpahsh;fshy; mwpag;gl;Ls;sJ.

Nahfhtpd; tiuaiw:

Nahfh vd;gJ MNuhf;fpak; kw;Wk; kdmikjpf;fhfg; gutyhf nra;ag;gLfpd;w> clk;G kw;Wk; kdij Kg;ghpkhzq;fshfpa %r;rlf;Fjy; (rPjyp gpuzhahkh)> jpahdk; (gpuzhahkh) kw;Wk; Fwpg;gpl;l epiyapy; cliy epiyg;gLj;jy; (ntg;gNkw;Wk; gapw;rpfs;> t[;uhrdk; kw;Wk; r\r\q;fhrdk;) %yk; cliyAk;> kdijAk; xUq;fpidf;f$ba rpfpr;ir Kiw.

kdmOj;jj;;jpdhy; Vw;gLk; khw;wq;fis tpthpj;jy;:

cly; hPjpahd khw;wq;fs; khjtpyf;F epWj;jkile;j ngz;fSf;F kdmOj;jj;ij Vw;gLj;Jfpd;wd. ,J tho;f;ifia vy;yh tpjq;fspYk; ghjpf;fpwJ. kd czh;Tfs; xUtUf;nfhUth; khWgLfpd;wJ.

cly; hPjpahd khw;wq;fs;

jiytyp> KJFtyp> m[Puzk;> fOj;J kw;Wk; Njhs; ,Wf;fk; tapw;Wtyp> ,jaj;Jbg;G mjpfkhFjy; cs;sq;ifapy; tpah;j;jy; kw;Wk; epiyapd;ik.

eltbf;ifapy; Vw;gLk; khw;wq;fs;

gw;fis fbj;jy;> kJ mjpfkhf cl;nfhs;Sjy; fl;lhakhf <Wfis Ritj;jy;> fl;lhakhf cz;Zjy; kw;wth;fis tpkh;rpj;jy; kw;Wk; nray;fis nra;J Kbf;f ,ayhik.

czh;Tg; G+h;tkhd khw;wq;fs;

mOjy;> msTf;F mjpfkhd kdmOj;jk;> glglg;G> gak;> Nfhgk;> tho;f;ifia mh;j;jkw;W czh;jy; kw;Wk; jdpik (kUj;Jth; n`h;ngh;l; ngd;rd; 2010).

kdmOj;jj;jpd; rpfpr;ir Kiwfs;

MRthr gapw;rpfs; rpyhpd; kdmOj;jj;ij Fiwg;gjpy; gyd; mspf;fpwJ Mo;e;j MRthrk; cly; uPjpahd kw;Wk; kd uPjpahd kw;wq;fis vjph;tpid nra;fpwJ. Mo;e;j Rthrg; gapw;rp> njhlh; MRthr gapw;rp> jpahdk;> ,ir> gNah/gPl;Ngf;> clw;gapw;rp kw;Wk; Nahfh Nghd;w epiwa topKiwfs; gad;gLj;jgLfpd;wd.

Nahfh

Nahfh Mapuk; Mz;LfSf;F Kd; Njhd;wpa cly;> kd kw;Wk; Md;kPf eyid Nkk;gLj;Jtij Fwpf;Nfhshf nfhz;l ntspg;gilahf gapw;rp nra;af;$ba mwptpay; MFk;. ,J cly; MNuhf;fpaj;ij Nkk;gLj;JfpwJ> mwpTf; $h;ikia tsh;f;fpwJ> kd mikjpiaAk; kw;Wk; tskhd tho;f;if jpwidAk; cUthf;FfpwJ. kd mOj;jj;ij Fiwg;gjp;y; Nahfhtpd; jpwid gw;wp Muha;r;rpahsh;fs; ntspg;gLj;jpAs;sdh;.

nghJ tpjpKiwfs;

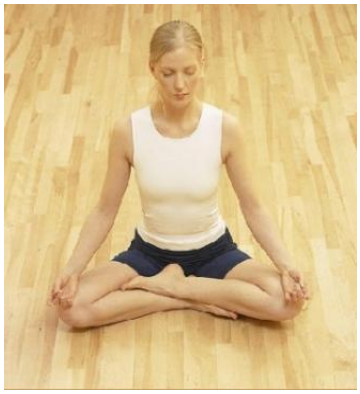
- vg;nghOJk; Rj;jkhd fhw;Nwhl;lkhd ,lj;jpy; gapw;rp nra;aTk;.
- jiu tphpg;G my;yJ ghapd; Nky; mkh;e;J gapw;rp nra;aTk;.
- jpwe;j ntspapy; Fsph;e;j fhw;Wf;F vjpuhf gapw;rp nra;a Ntz;lhk;.
- fhiyapy; my;yJ khiyapy; gapw;rp nra;tNj cfe;j Neuk;.
- ntWk; tapw;wpy; my;yJ cztUe;jp 3-4 kzp Neuk; fopj;J gapw;rp nra;aTk;.
- kyk;> rpWePh; fopj;j gpd; gapw;rp nra;aTk;.
- Fspj;jTld; gapw;rp nra;a Ntz;lhk.;
- vy;yh gbfisAk; ehR+f;fhf filgpbg;gjhy; KO gapw;rpiaAk;. KOikahfTk;> KiwahfTk; filgpbf;f KbAk;.
- gapw;rp KOtJk; KJF kw;Wk; jiyia Neuhf itf;fTk;.

- ve;j Mrdq;fisAk; td;kkhf> mjpuTk; kw;Wk; tYf;fl;lhakhfTk;. nra;a Ntz;lhk;. cq;fspd; rf;jpf;Nfw;g nkd;ikahfTk; epiyahfTk;> MRthrkhfTk; kw;Wk; mofhd Kiwapy; nra;a Ntz;Lk;.
- gapw;rpia nra;J Kbf;f mtrug;gl Ntz;lhk;.

Nahfh gapw;rp Kiwfs;

ntg;gNkw;Wk; gapw;rpfs;

fOj;J Row;wk; (ghd; Kf;jh)



- gj;khrdj;jpy; mkh;e;J fhy;fis Neuhf ePl;lTk;
- fz;fis %b cs;sq;iffis Kl;b kPJ itf;fTk;.
- fOj;ij gpd;tisf;Fk; NghJ rpukkpd;wp ,ad;w msT %r;ir cs;spOf;fTk;.
- 2-3 tpdhbfs; mNj epiyapy; ,Ue;J jirfspy; ,Wf;fj;ij czuTk;.
- ,g;nghOJ fOj;ij Kd; tisj;J jhthq; fl;ilapdhy; fOj;J vYk;igj; njhl Kaw;rpf;fTk;.
- fOj;ij Kd; tisf;Fk;NghJ %r;ir ntsptplTk;.

kzpf;fl;L Row;wk;

- Rfhrdj;jpy; my;yJ trjpahd epiyapy; mkuTk;.
- ,U iffisAk; Njhs;gl;il mstpw;F ePl;lTk;.
- Koq;iffis Neuhf itf;fTk;.
- fl;iltpuiy cs;itj;J iftpuy;fis ,Wf %bf;nfhs;sTk;.
- ,Wf %baepiyapNy fbfhuRow;rp kw;Wk; vjph; fbfhuRow;rpapy; Row;wTk;.
- Nky; Nehf;fp Row;Wk; NghJ %r;ir cs;spOf;fTk;.
- fPo; Nehf;fp Row;Wk; NghJ %r;ir ntsp tplTk;.

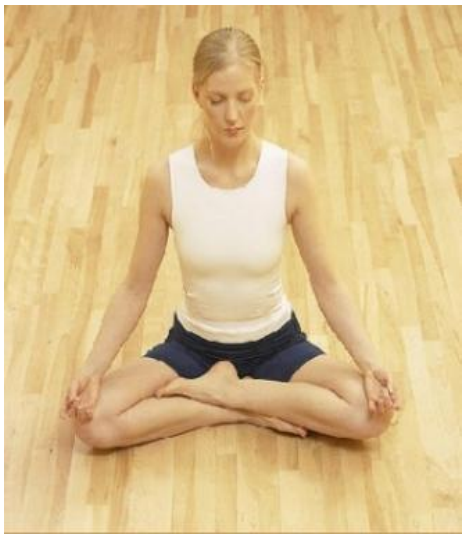
Kl;b tisj;jy; ([hD ekhd;)

- Muk;gepiyapy; cliy rkd; nra;aTk;.
- tyJ Kl;bia tisj;J ghjj;ij NkYah;j;jTk;> njhilia neQ;rstpw;F cah;j;jTk;.
- fhy;fis Neuhf ePl;Lk;NghJ %r;ir cs;spOf;fTk;.
- njhlia klf;Fk; NghJ %r;ir ntsptplTk;.
- ,uz;L fhy;fspYk; 10 Kiw gapw;rp nra;aTk;.

fZf;fhy; Row;wk; (Fy;g;rf;uh)

- glj;jpYs;s epiyapy; mkuTk;.
- Muk;gepiyapy; mkuTk;.
- fhy;fis mfw;wp Neuhf itf;fTk;.
- Fjpfhy;fs; jiuiaj; njhLk; epiyapNy fhy;fis fbfhuRow;rp kw;Wk; vjph; fbfhuRow;rpapy; Row;wTk;.
- Nky; Nehf;fp Row;Wk; NghJ %r;ir cs;spOf;fTk;.
- fPo; Nehf;fp Row;Wk; NghJ %r;ir ntsp tplTk;.

gpuzhahkh



- gj;khrdj;jpy; mkh;e;J iffspd; rpd; Kj;jpiuia itf;fTk;
- tyJ ehrpia fl;il tpuyhy; %lTk;
- ,lJ ehrpapy; %r;ir cs;spOf;fTk;
- mNj epiyapNy rpy tpdhbfs; ,ad;w msT ,Uf;fTk;.

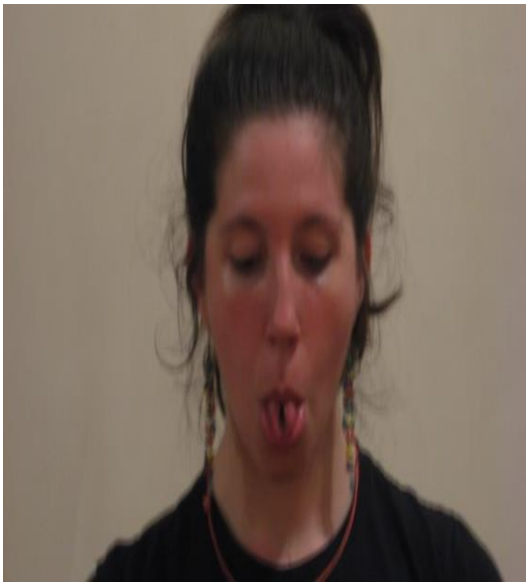
- mNj ehrptopahf %r;ir ntsp tplTk;.

- ,lJ ehrpia Nkhjpu tpuy; kw;wk; Rz;L tpuyhy; %lTk;.
- tyJ ehrpapy; %r;ir cs;spOf;fTk;.
- mNj epiyapNy rpy tpdhbfs; ,ad;w msT ,Uf;fTk;.
- mNj ehrptopahf %r;ir ntsp tplTk;.

khw;Wtop Rthr gapw;rp

- tyJ ehrpia fl;il tpuyhy; %lTk;.
- ,lJ ehrp topahf %r;ir cs;spOj;J tyJ ehrp topahf %r;ir ntsptplTk; kw;Wk; gpuzhahkhtpd; kw;w gbfisAk; filgpbf;fTk;.
- ,lJ ehrpia Nkhjpu tpuy; kw;wk; Rz;L tpuyhy; %bTk;.
- tyJ ehrp topahf %r;ir cs;spOj;J ,lJ ehrp topahf %r;ir ntsptplTk; kw;Wk; gpuzhahkhtpd; kw;w gbfisAk; filgpbf;fTk;.

rPjyp gpuzhahkh

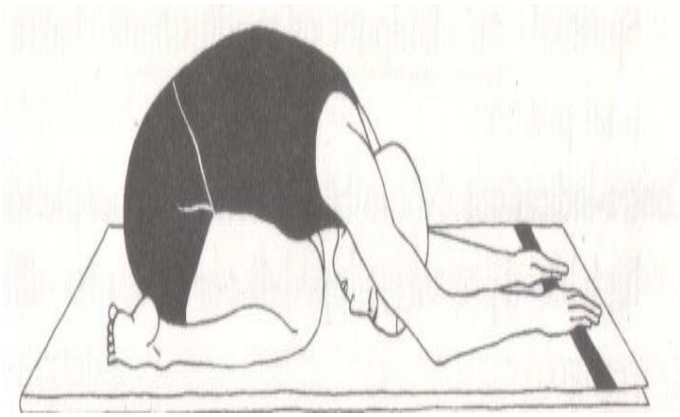


- gj;khrdj;jpy; mkh;e;J iffspy; rpd; Kj;jpiuia itf;fTk;.
- tprpybg;gijg; Nghy ehf;if Ftpf;fTk;.
- Ftpj;j ehf;fpd; topahf %r;ir cs;spOj;J ,ad;w msT rpy tpehbfs; ,Uf;fTk;.
- %r;ir ntsptplTk;.

t[;uhrdk;

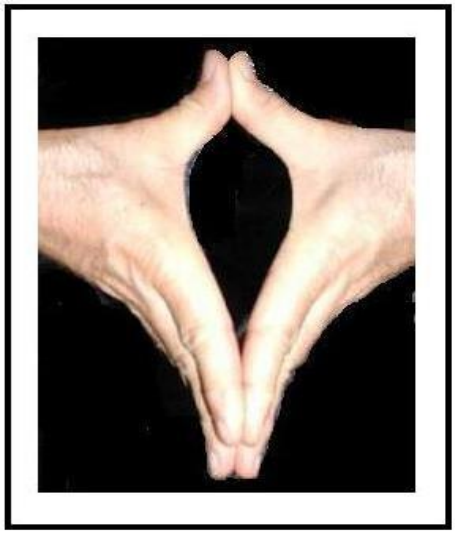
- fhy;fis klf;fTk;> ,uz;L Kl;bfYk; jiuapy; gLk;gb> ,uz;L Gl;lq;fs; kPJ mkuTk;.
- ,uz;L iffisAk; njhil Nky; itf;fTk;.
- Neuhf mkUk;NghJ %r;ir cs;spOf;fTk;.
- jiuiaNehf;fp FdpAk;NghJ %r;ir ntsptplTk;.

r\r\q;fhrdk;



- t[;uhrd epiyapy; mkuTk;.
- mkh;e;j epiyapy; %r;ir cs;spOf;fTk;.
- jiuia Nehf;fp FdpAk; NghJ ,uz;L iffisAk;. jiuapy; njhLk; gb ePl;b %r;ir ntsp tplTk;.

NahdpKj;uh



- gj;khrdj;jpy; mkuTk;.
- iffspd; ,uz;L fl;il tpuy;fisAk; kw;Wk; Ml;fhl;b tpuy;fiyAk; Kd;Nehf;fp xd;W Nrh;j;J xU Kf;Nfhzk; Nghy cUthf;fp mbtapw;wpy; itf;fTk;
- nkJthf kw;Wk; Mokhf %r;ir ,Of;fTk;

1 AGE - Age in years

1.1 40-45

1.2 46-50

1.3 51-55

2 RGN - Religion

2.1 Hindu

2.2 Christian

2.3 Muslim

2.4 Others

3 MS - Marital Status

3.1 Married

3.2 Unmarried

3.3 separated/ Divorced

3.4 Widow

4 ES - Educational Status

4.1 Illiterate

4.2 Primary education

4.3 Secondary education

4.4 Higher secondary

4.5 College (PG/UG)

5 OS - Occupational Status

5.1 Employed in any organization

5.2 Coolie

5.3 House wife

6 FIM - Family Income per month

6.1 <3000

6.2 3001-5000

6.3 5001-8000

6.4 >8000

7 FS - Financial Status

7.1 Independent

7.2 Dependent

8 TOF - Type of Family

8.1 Joint family

8.2 Nuclear family

8.3 Extended family

9 NOC -

9.1 1

9.2 2

9.3 3

9.4 >3

10 NOW – Nature of Work

10.1 Sedentary work

10.2 Moderate work

10.3 Heavy work

10.4 Not working

11 FH - Food Habits

11.1 Vegetarian

11.2 Non – Vegetarian

3 BMI - Body Mass Index

3.1 <20

3.2 20-25

3.3 26-30

3.4 >30

4 PCI - Presence of Chronic Illness

4.1 Yes

4.2 No

APPENDIX - 7

DATA CODE SHEET

5	**MI - Mention the illness**		**PSS score - Perceived Stress Scale**
5.1	Hypertension	BA	Before administration
5.2	Diabetes	AA	After administration
5.3	Both	INT	Interpretation
5.4	None	1	≤27 - Mild
		2	28-41 - Moderate
6	**DOH - Duration of Hypertension**	3	<41 - Severe
6.1	<2years		

APPENDIX – 8

MASTER CODE SHEET

	EXPERIMENTAL GROUP																										
	DEMOGRAPHIC VARIABLE											CLINICAL VARIBLE															
SN	AGE	RGN	MS	ES	OS	FIM	FS	TOF	NOC	NOW	FH	HT	WT	BMI	HOI	MI	DOH	DOD	DAM	JP	SD	BA	INT	AA	INT	LOS	INT
1	1.2	2.2	3.1	4.1	5.3	6.1	7.2	8.2	9.2	10.4	11.2	145	40	3.1	4.2	5.4	6.4	7.4	8.3	9.1	10.1	35	2	27	1	36	1
2	1.2	2.2	3.1	4.1	5.3	6.1	7.2	8.1	9.2	10.4	11.2	152	52	3.2	4.2	5.4	6.4	7.4	8.3	9.1	10.2	31	2	24	1	38	1
3	1.3	2.1	3.1	4.1	5.3	6.1	7.2	8.1	9.2	10.4	11.2	156	45	3.1	4.2	5.4	6.4	7.4	8.3	9.1	10.1	45	3	37	2	24	2
4	1.3	2.1	3.1	4.2	5.3	6.1	7.2	8.1	9.3	10.4	11.2	140	39	3.1	4.1	5.3	6.1	7.3	8.3	9.1	10.1	49	3	40	2	26	2
5	1.2	2.1	3.1	4.1	5.3	6.2	7.2	8.1	9.3	10.4	11.2	155	50	3.2	4.2	5.4	6.4	7.4	8.1	9.1	10.2	33	2	24	1	40	1
6	1.3	2.1	3.1	4.1	5.3	6.1	7.2	8.2	9.4	10.4	11.2	145	46	3.2	4.2	5.4	6.4	7.4	8.3	9.1	10.1	30	2	21	1	42	1
7	1.3	2.1	3.1	4.1	5.3	6.1	7.2	8.1	9.1	10.4	11.2	153	46	3.2	4.2	5.4	6.4	7.4	8.3	9.1	10.1	47	3	35	2	38	1
8	1.3	2.2	3.1	4.2	5.3	6.2	7.2	8.1	9.3	10.4	11.2	153	44	3.1	4.1	5.2	6.4	7.3	8.3	9.1	10.1	32	2	23	1	31	2
9	1.3	2.2	3.1	4.1	5.3	6.2	7.2	8.2	9.3	10.4	11.2	160	55	3.2	4.2	5.4	6.4	7.4	8.3	9.1	10.1	34	2	26	1	34	2
10	1.3	2.2	3.1	4.1	5.3	6.3	7.2	8.1	9.4	10.4	11.2	150	45	3.2	4.1	5.1	6.2	7.4	8.1	9.1	10.1	47	3	29	2	44	1
11	1.1	2.2	3.1	4.1	5.3	6.1	7.2	8.1	9.4	10.4	11.2	156	48	3.1	4.2	5.4	6.4	7.4	8.1	9.1	10.1	50	3	30	2	33	2
12	1.1	2.2	3.1	4.3	5.3	6.2	7.2	8.1	9.1	10.4	11.2	158	60	3.2	4.2	5.4	6.4	7.4	8.1	9.2	10.1	37	2	25	1	38	1
13	1.3	2.1	3.3	4.1	5.3	6.2	7.2	8.1	9.4	10.4	11.2	154	52	3.2	4.2	5.4	6.4	7.4	8.2	9.1	10.1	29	2	23	1	40	1
14	1.2	2.1	3.1	4.1	5.3	6.1	7.2	8.2	9.3	10.4	11.2	158	60	3.2	4.2	5.4	6.4	7.4	8.1	9.1	10.1	49	3	34	2	42	1
15	1.1	2.2	3.1	4.3	5.3	6.2	7.2	8.2	9.2	10.4	11.2	150	65	3.3	4.2	5.4	6.4	7.4	8.1	9.2	10.1	46	3	29	2	31	2
16	1.1	2.1	3.1	4.2	5.3	6.1	7.2	8.2	9.3	10.4	11.2	160	45	3.1	4.2	5.4	6.4	7.4	8.1	9.1	10.1	45	3	30	2	30	2
17	1.2	2.1	3.1	4.1	5.3	6.2	7.2	8.1	9.4	10.4	11.2	150	40	3.1	4.2	5.4	6.4	7.4	8.2	9.1	10.1	41	2	26	1	39	1
18	1.3	2.1	3.1	4.2	5.2	6.1	7.1	8.1	9.3	10.2	11.2	155	51	3.2	4.1	5.2	6.4	7.2	8.3	9.2	10.1	39	2	27	1	35	2
19	1.1	2.1	3.1	4.3	5.3	6.2	7.2	8.1	9.2	10.4	11.2	143	65	3.4	4.2	5.4	6.4	7.4	8.1	9.2	10.1	46	3	35	2	42	1
20	1.3	2.1	3.1	4.1	5.3	6.1	7.2	8.2	9.3	10.4	11.2	148	68	3.4	4.1	5.1	6.2	7.4	8.3	9.1	10.1	30	2	20	1	43	1
21	1.3	2.1	3.1	4.1	5.3	6.1	7.2	8.1	9.4	10.4	11.2	158	55	3.2	4.2	5.4	6.4	7.4	8.3	9.1	10.1	40	2	26	1	39	1
22	1.3	2.1	3.1	4.1	5.3	6.2	7.2	8.2	9.4	10.4	11.2	143	40	3.2	4.2	5.4	6.4	7.4	8.3	9.1	10.1	37	2	27	2	30	2
23	1.3	2.2	3.1	4.2	5.3	6.3	7.2	8.1	9.4	10.4	11.2	153	44	3.1	4.1	5.1	6.1	7.4	8.2	9.1	10.1	33	2	19	1	40	1
24	1.2	2.2	3.1	4.1	5.3	6.3	7.2	8.2	9.4	10.4	11.2	155	70	3.3	4.1	5.2	6.4	7.3	8.2	9.1	10.1	39	2	20	1	41	1
25	1.1	2.2	3.1	4.3	5.3	6.3	7.2	8.2	9.3	10.4	11.2	142	58	3.3	4.1	5.3	6.1	7.1	8.1	9.1	10.1	47	3	33	2	42	1
26	1.1	2.1	3.1	4.1	5.2	6.1	7.1	8.2	9.3	10.2	11.2	140	38	3.1	4.2	5.4	6.4	7.4	8.2	9.1	10.1	49	3	32	2	25	2
27	1.2	2.1	3.1	4.1	5.2	6.1	7.1	8.2	9.3	10.2	11.2	143	45	3.2	4.1	5.1	6.2	7.4	8.3	9.1	10.1	38	2	24	1	24	2
28	1.3	2.2	3.1	4.1	5.3	6.2	7.2	8.2	9.4	10.4	11.2	146	50	3.2	4.2	5.4	6.4	7.4	8.3	9.1	10.1	45	3	28	2	27	2
29	1.2	2.1	3.1	4.2	5.3	6.1	7.2	8.1	9.2	10.4	11.2	148	70	3.4	4.1	5.2	6.4	7.1	8.2	9.1	10.1	31	2	19	1	44	1
30	1.3	2.2	3.1	4.1	5.2	6.1	7.1	8.2	9.4	10.2	11.2	158	50	3.2	4.2	5.4	6.4	7.4	8.1	9.1	10.1	43	3	30	2	42	1

	CONTROL GROUP																							
	DEMOGRAPHIC VARIABLE											CLINICAL VARIABLE												
SN	AGE	RGN	MS	ES	OS	FIM	FS	TOF	NOC	NOW	FH	HEIGHT	WEIGHT	BMI	HOI	MI	DOH	DOD	DAM	JP	SD	BA	INT	AA	INT
1	1.1	2.1	3.1	4	5.3	6.1	7.2	8.2	9.3	10.4	11.2	1.1	2.4	3.3	4.2	5.4	6.4	7.4	8.1	9.1	1o.1	30	2	31	2
2	1.2	2.2	3.4	4	5.3	6.1	7.2	8.2	9.2	10.4	11.2	1.4	2.3	3.2	4.2	5.4	6.4	7.4	8.1	9.1	1o.1	29	2	28	2
3	1.1	2.1	3.1	4	5.3	6.1	7.2	8.2	9.3	10.4	11.2	1.4	2.3	3.2	4.2	5.4	6.4	7.4	8.1	9.1	1o.1	43	3	40	3
4	1.2	2.1	3.1	4	5.3	6.1	7.2	8.2	9.3	10.4	11.2	1.3	2.1	3.1	4.1	5.1	6.1	7.4	8.2	9.1	1o.1	42	3	39	3
5	1.3	2.2	3.4	4	5.2	6.1	7.1	8.1	9.2	10.2	11.2	1.1	2.1	3.1	4.2	5.4	6.4	7.4	8.1	9.1	1o.1	31	2	29	2
6	1.3	2.1	3.1	4	5.3	6.2	7.2	8.2	9.3	10.4	11.2	1.2	2.4	3.3	4.1	5.3	6.2	7.2	8.2	9.1	1o.1	48	3	50	3
7	1.1	2.2	3.1	4	5.3	6.2	7.2	8.1	9.4	10.4	11.2	1.3	2.2	3.2	4.1	5.2	6.4	7.1	8.2	9.1	1o.2	32	2	30	2
8	1.3	2.1	3.1	4	5.3	6.1	7.2	8.2	9.2	10.4	11.2	1.4	2.3	3.2	4.2	5.4	6.4	7.4	8.3	9.1	1o.1	36	2	35	2
9	1.2	2.2	3.1	4	5.2	6.2	7.1	8.1	9.2	10.2	11.2	1.3	2.2	3.2	4.1	5.2	6.4	7.1	8.3	9.1	1o.1	37	2	36	2
10	1.1	2.2	3.1	4	5.3	6.2	7.2	8.2	9.2	10.4	11.2	1.1	2.2	3.2	4.1	5.2	6.4	7.1	8.3	9.1	1o.1	51	3	49	3
11	1.3	2.1	3.1	4	5.3	6.2	7.2	8.2	9.3	10.4	11.2	1.3	2.1	3.1	4.2	5.4	6.4	7.4	8.3	9.1	1o.1	52	3	49	3
12	1.2	2.2	3.1	4	5.3	6.2	7.2	8.2	9.4	10.4	11.2	1.4	2.4	3.3	4.2	5.4	6.4	7.4	8.1	9.1	1o.1	39	2	37	2
13	1.1	2.1	3.1	4	5.2	6.1	7.1	8.2	9.3	10.2	11.2	1.3	2.2	3.2	4.1	5.2	6.4	7.2	8.2	9.1	1o.1	35	2	34	2
14	1.3	2.2	3.1	4	5.3	6.1	7.2	8.2	9.3	10.4	11.2	1.4	2.3	3.2	4.2	5.4	6.4	7.4	8.3	9.1	1o.1	36	2	32	2
15	1.1	2.2	3.3	4	5.2	6.1	7.1	8.2	9.3	10.2	11.2	1.3	2.2	3.2	4.1	5.3	6.2	7.1	8.1	9.1	1o.1	49	3	47	3
16	1.2	2.1	3.1	4	5.3	6.1	7.1	8.1	9.4	10.4	11.2	1.4	2.3	3.2	4.2	5.4	6.4	7.4	8.2	9.1	1o.1	53	3	51	3
17	1.3	2.2	3.4	4	5.2	6.1	7.1	8.1	9.2	10.2	11.2	1.2	2.2	3.1	4.1	5.1	6.3	7.4	8.3	9.1	1o.1	40	2	39	2
18	1.2	2.1	3.1	4	5.3	6.3	7.2	8.1	9.4	10.4	11.2	1.4	2.4	3.3	4.2	5.4	6.4	7.4	8.2	9.1	1o.1	31	2	28	2
19	1.1	2.2	3.1	4	5.3	6.2	7.2	8.2	9.3	10.4	11.2	1.4	2.4	3.2	4.1	5.2	6.4	7.3	8.3	9.1	1o.1	50	3	49	3
20	1.3	2.2	3.1	4	5.3	6.1	7.2	8.2	9.3	10.4	11.2	1.4	2.4	3.2	4.1	5.1	6.2	7.4	8.1	9.1	1o.1	35	2	33	2
21	1.3	2.2	3.3	4	5.2	6.2	7.1	8.2	9.3	10.2	11.2	1.3	2.2	3.2	4.2	5.4	6.4	7.4	8.3	9.1	1o.1	40	2	41	2
22	1.2	2.1	3.1	4	5.3	6.1	7.2	8.1	9.2	10.4	11.2	1.3	2.3	3.2	4.2	5.4	6.4	7.4	8.2	9.1	1o.1	33	2	32	2
23	1.1	2.1	3.1	4	5.3	6.1	7.2	8.2	9.3	10.4	11.2	1.2	2.1	3.1	4.2	5.4	6.4	7.4	8.3	9.1	1o.1	44	3	42	3
24	1.1	2.2	3.1	4	5.2	6.1	7.1	8.1	9.3	10.2	11.2	1.1	2.2	3.2	4.1	5.1	6.1	7.4	8.1	9.1	1o.1	46	3	41	3
25	1.3	2.2	3.1	4	5.3	6.2	7.2	8.2	9.3	10.4	11.2	1.3	2.2	3.2	4.1	5.2	6.4	7.1	8.2	9.1	1o.2	35	2	31	2
26	1.2	2.2	3.1	4	5.3	6.2	7.2	8.2	9.2	10.4	11.2	1.1	2.3	3.3	4.2	5.4	6.4	7.4	8.1	9.2	1o.1	29	2	27	2
27	1.2	2.1	3.4	4	5.2	6.1	7.1	8.2	9.2	10.2	11.2	1.3	2.2	3.2	4.1	5.3	6.1	7.1	8.2	9.1	1o.2	31	2	29	2
28	1.3	2.2	3.1	4	5.3	6.1	7.2	8.2	9.2	10.4	11.2	1.3	2.2	3.2	4.2	5.4	6.4	7.4	8.1	9.1	1o.2	28	2	28	2
29	1.1	2.2	3.1	4	5.3	6.1	7.2	8.1	9.4	10.4	11.2	1.4	2.4	3.2	4.2	5.4	6.4	7.4	8.2	9.1	1o.1	34	2	32	2
30	1.2	2.2	3.1	4	5.3	6.1	7.2	8.1	9.2	10.4	11.2	1.4	2.4	3.2	4.1	5.1	6.3	7.4	8.3	9.1	1o.1	45	3	43	3

Chapter-I
Introduction

CHAPTER I

INTRODUCTION

BACKGROUND OF THE STUDY

"To awaken people, it is the women who must be awakened. Once she is on the move, the family moves and the village moves." A holistic approach to women's health programmes need to focus on all the stages of life cycle. Only by addressing the distinctive concern of each stages there can be significant improvement in women's overall being.

Menopausal period is a crucial time in the life of the women as she experiences physiological changes and undergoes stress. It is also a period of crisis as many transitions take place like changes in family pattern, added family responsibilities and financial burden.

Menopause is a phase of transition from adulthood to middle old age in the lifecycle of women. Although menopause is a biological event, it heralds psychological concomitants and the experience is determined by socio cultural factors. Steriotyped expectations about woman's life cycle and attribution of mid-life symptoms to menopause may cause unwarranted anxiety in the middle aged women (Somashekar & Srikala Bharath 2001).

In India less than 10% of women in their 30's are menopausal. One fifth of women aged 40-41 have reached menopause and the prevalence of menopause increases rapidly thereafter to 65% at the age 48-49 (National Family Health Survey, 2005-2006).

In the western world typical age range for menopause is between the ages of 40 and 60 and the average age for last period is 51 years. However in some developing countries like Indonasia and the Philippines, the median age of natural menopause is considerably earlier at44years (Wikipedia).

The average age of menopause is 51 years with a range of 41 to 59. Studies in India consistently show that 48 years is the average among Indian women. Mood and behavior symptoms are commonly reported during the menopausal period. The symptoms include worry, fatigue, crying spells, mood swings, diminished ability to cope and diminished libido or orgasm (Somashekar & Srikala Bharath 2001).

Psychosocial stresses are due to the changes in family role and social support, life events, physical illness and aging. During the menopausal period, women experience various life events which are either positive or negative. The positive events are freedom from unwanted conception, freedom from the nurturing role, opportunity to pursue other activities/ plans and arrival of grand children. The negative symptoms are loss of youth, child bearing, children leaving or returning home, onset of major illnesses or disability in self or spouse or close relative, midlife crisis of spouse or retirement, own retirement, employment uncertainty and new responsibilities like care-giving of older parents (Indira and Murthy 1981).

Women experiencing menopausal symptoms have a need for assistance from their health care providers. Peri-menopausal women may be undiagnosed or misdiagnosed or treated improperly. Menopausal women may suffer in silence not knowing what to do and how to seek help. They usually do not receive information on

what to expect during the peri-menopausal transition or how to seek help. They may not receive assurance that menopause is a normal life transition. There is a need to educate women on ways to promote their well-being and to prevent future health concerns (Harrison & Becker 2005).

Yoga is the ancient natural therapy developed in India 5000 years ago. It has become one of the popular alternative therapies over the last few years.

Swami Vivekananda (2005). has stated that yoga has got a key role over the mind to control it' s activities to keep it calm, quiet always and to produce relaxation of the body. Yoga is explained vividly in the great scriptures like Vedas, Upanishads, Gita and Ramayana.

Bhagavad-Gita says

Yoga is equanimity in success and failure.

Yoga is skill and efficiency in action.

Yoga is supreme and success in life.

Yoga is serenity.

Yoga is destroyer of pain.

Desikachari (2006) found that yoga controls stress as how mongoos controls, the snake without much difficulty. It is said that there is a strong relationship between body and mind. When one is affected, it leads to the distress of others.

Body Stress ⇄ Mental Illness

Therefore it is said that when the man's mind is sound, it gives sound body which gives a sound family and ultimately a sound environment. Thus it is important for the health professionals, including nurses, to plan for the strategies to reduce the stress by which the quality of life can be improved.

Need for the Study

The menopausal period marks the end of a woman's reproductive capacity. After menopausal changes in the reproductive system, multifaceted changes occur throughout the woman's body. These changes include neuro endocrinologic, biochemical and metabolic alterations related to aging. The loss of reproductive capacity may mean disappointment for some women and relief for others. For women grown with family traditional values, menopause may result in feelings of sexual and personal freedom. Individual circumstances affect the response of each woman and must be considered on an individual basis (Brunner & Suddarth 2007).

Menopause currently affects the lives of millions of women globally and will be an issue of increasing concern as the population increases over the next few decades. Menopause is a complex time in a woman's life, leading to both physical and emotional challenges (George 2002, Lyons & Griffin 2003).

There has been a wealth of recent menopausal-related research; much of this has focused on the physical symptoms and associated treated options such as hormones replacement therapy. The findings of several studies have highlighted the importance of understanding the social context of this life event (Ballad et al.2001).

In addition to coping with the physical challenges of menopause (hot flushes, vaginal dryness, mood changes and insomnia), women often deal with concurrent stresses such as changes in employment, finances as well caring for aging and ailing parents (Lyon & Griffin 2003).

Although the literature highlights many key characteristics and experience of menopausal women in general, there is limited information about menopause experiences of women living in rural areas. Living in a rural environment can complicate the menopause experience for several reasons including geographical locations, lack of confidentiality, anonymity, stressed by multiple roles, poverty, limited health care and support services (Leipert & Reutter 2005).

Menopause is not only a marker of life stages but also presents biological and psychological challenges to women. Following an increasing in life expectancy, increasing proportion of women will live in the post menopausal state than ever before. Women face the menopause under variable life circumstances and experience menopause as an individual. Hence care should be taken not to make inappropriate generalization. Regular gynecological checkups and taking help when symptoms decrease the quality of life are essential for effective coping. Regular exercises and stress relieving measures like meditation needs to be highlighted in the life style changes (Upadayaya and Chaturvedi 1988).

The bio behavioral responses to environmental demands or stressors have many implications for health and illness. The nurses are in prime position to assess the level of stress in patients, to assist them to identify high risk periods and to integrate stress

management programme that could prevent the negative consequences of the stress on health. Relaxation response in the body has the ability to promote normal functions. Failure to elicit the relaxation response cause the onset of several damaging ailments. One proven way to relieve tension and involve relaxation response is through yoga therapy and it‘s effective means to neutralize stress (Linda 2004).

Even though there are studies available which demonstrated the effectiveness of yoga on stress, overall there is paucity of research on menopausal women. Yoga is found to be very effective in bringing down the stress and improve the psychological well being. (Granath, et al 2006 and West et al 2004). Thus this study is conducted by the investigator to assess the effectiveness of yoga among postmenopausal women in reducing the stress level.

Statement of the Problem

An experimental study to assess the effectiveness of yoga upon stress among post menopausal women in selected areas of Chennai.

Objectives of the Study

1. To find out the stress level among post menopausal women in selected areas of Chennai.
2. To assess the effectiveness of yoga among postmenopausal women.
3. To find out the association between selected variables and the level of stress among the control and experimental groups of post menopausal women.

4. To assess the level of satisfaction regarding yoga among the experimental group of post menopausal women.

Operational Definitions

Effectiveness

In this study it refers to the outcome of the yoga therapy on reducing stress among post menopausal women as measured by Cohen et al, Perceived Stress Scale.

Yoga

It refers to the therapy in which the union of body and mind by three dimensions such as breath control (seethalipranayama), simple meditation (pranayama) and holding specific body postures (warm up exercises, vajrasana and shashangasana) which are widely practiced for health and relaxation.

Stress

Stress is an individual's reaction to any change that requires an adjustment or response, which can be physical, mental, or emotional as measured by Cohen et al perceived stress scale.

Post menopausal women

It is the characteristic of women with physiological cessation of menstruation for a period of 1 year and beyond, within the age group of 41-55.

Assumptions

- Post menopausal women experience stress.
- Hormonal changes after menopause causes stress.
- Menopause may result in feelings ranging from role confusion to feelings of sexual and personal freedom.
- Level of stress varies from person to person.
- Stress produces some physiological effects like headache, insomnia and nervousness.
- Non pharmacological interventions help in the reduction of stress.

Null hypotheses

Ho1: There will be no significant difference between stress scores among post menopausal women before and after yoga in the experimental and control groups.

Ho2: There will be no significant association between selected variables and the level of stress level among post menopausal women before and after yoga in the experimental and control groups.

Delimitations

- The study period was limited to 5 weeks.
- The study period was limited to post menopausal women who attained menopause at selected villages at Ayanambakkam in Chennai.

- Yoga was selected by the researcher and used uniformly for all the study participants.

Conceptual Framework

The conceptual framework deals with the inter-related concepts that are assessed together for a study as the abstract, logical structure that enables the researcher to link the findings to nursing body of knowledge. It is developed from the existing theory of interests and proposing relationship among them. The model gives direction for planning research design, data collection and interpretation of findings. (Polit and Beck 2006).

The present study aims at describing the effectiveness of yoga therapy among post menopausal women. The framework for the study is based on "Roy's Adaptation Model".

The core of Roy's Adaptation Model is the belief that a person's adaptive responses are a function of the incoming stimulus and the adaptive model. The adaptive level is made up of the pooled effect of three classes of stimuli.

Focal stimuli : Which immediately comfort the individual.

Contextual stimuli : Which occurs as a result of the focal stimuli.

Residual stimuli : Those factors that are relevant but ca not be validated.

Roy further conceptualizes the person as having four modes of adaptation, physiological function, self concept, role function and interdependence. The conceptual

frame work present in Fig 1 explains the application of Roy‘s Adaptation in the care of post menopausal women.

Focal Stimuli: It is the stimulus most immediately confronting the person and one to which the person must make an adaptive response. In this study focal stimulus is the status of post menopausal women who experience stress.

Contextual Stimuli: The stimuli which contribute to the behavior caused or precipitated by focal stimuli. In this study the contextual stimuli are educational status, occupation, income, type of family, number of children, nature of work and marital status of post menopausal women.

Residual Stimuli: The factors which are relevant but cannot be validated as acceptance of the physiological body disturbances

Regulator: It is a subsystem coping mechanism which responds automatically through neurochemical endocrine process.

Cognator: It is the system of coping mechanism which responses through complex process of perception, information processing, learning, judgement and emotion. For this present study, yoga is the regulator and cognator which acts as a coping mechanism for effectors.

Adaptive (Effector): Adaptive modes are the ways of coping that manifest the regulator or cognator activity that is physiological, self concept, role function and interdependence.

In this study the post menopausal women may be manifested as:

Physiologically: Effects of post menopausal state

Self Concept : Beliefs and feelings about oneself. Comprises the Physical self, personal self and ethical self.

Role Function: Role deficit due to impact of post menopausal state and their family role.

Interdependence: Changes in the relationship of family members due to the informational, emotional and economic support.

In this study adaptive responses are the responses that promote integrity of the person in terms of goals of survival and reproduction. In this study the adaptive responses can be measured through effectiveness of yoga in decreasing the stress of postmenopausal women.

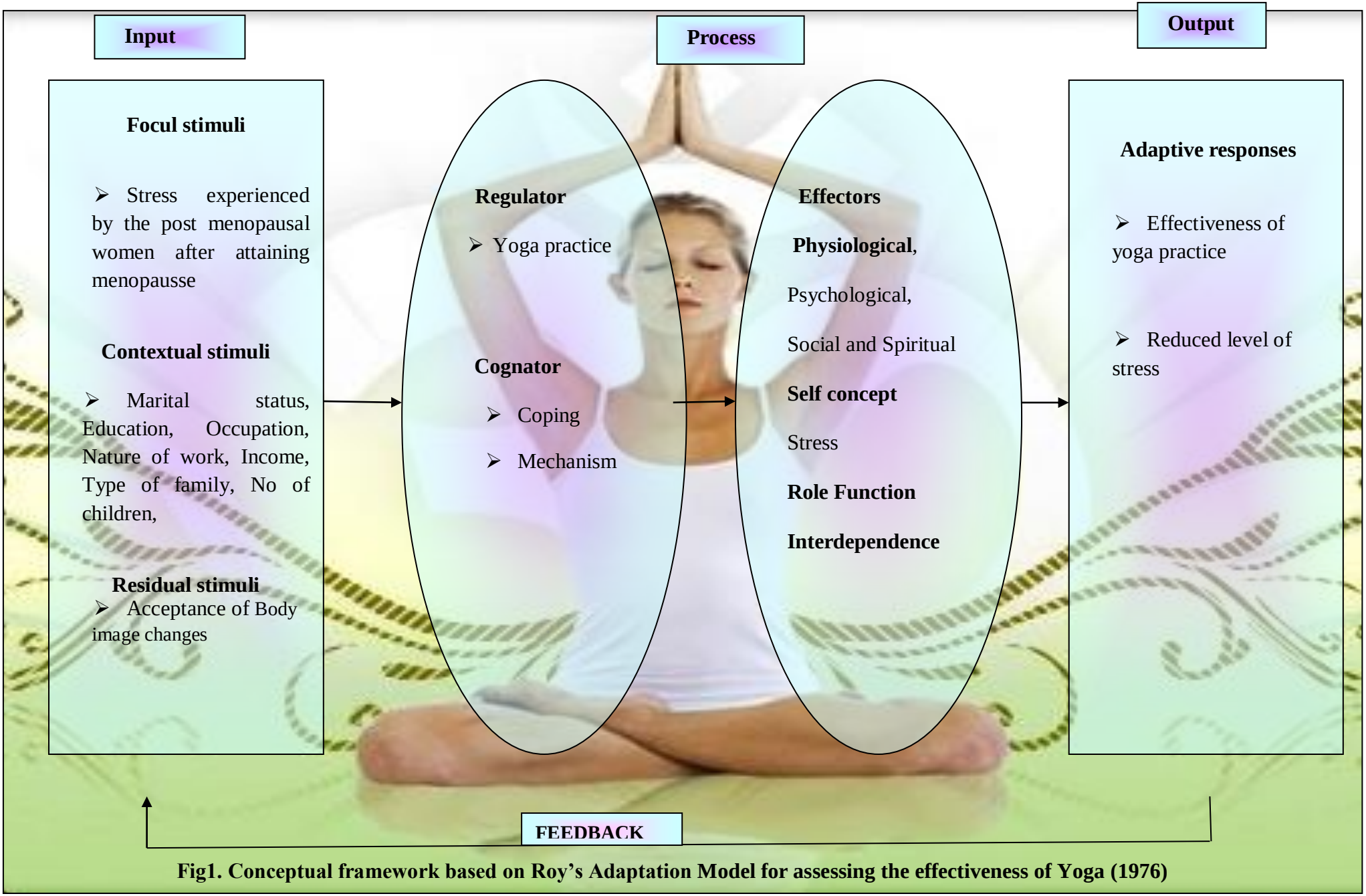


Fig1. Conceptual framework based on Roy's Adaptation Model for assessing the effectiveness of Yoga (1976)

Projected outcome of the study

Projected outcome of the study is reduction in the level of stress among the postmenopausal women after the administration of yoga in the experimental groups.

Summary

This chapter deals with the background of the study, need for the study, statement of the problem, objectives, operational definition, assumptions, null hypotheses, delimitations and conceptual frame work.

Organization of the report

Further aspects of the study are presented in the following five chapters

In chapter- II Review of Literature

In chapter–III Research Methodology, which includes research approach, design, setting, population, sample and sampling techniques, tool description, content validity and reliability of tools, pilot study, data collection procedure and plan for data analysis.

In chapter- IV Analysis and Interpretation of Data

In chapter- V Discussion

In chapter- VI Summary, Conclusions, Implications and Recommendations.

Chapter –II
Review of literature

CHAPTER II

REVIEW OF LITERATURE

A literature review involves the systematic identification, location, suiting and summary of writers' material that contain information on a research problem (Polit and Hungler 2007).

This chapter deals with a review of published and unpublished research studies and from related material. For the present study the review helped the investigator to develop an insight into the problem area. This helped the investigator in building the foundation of the study.

The review of literature in this chapter is presented under the following headings

- Literature related to prevalence of menopausal symptoms.
- Literature related to management of menopausal symptoms.
- Literature related to yoga
- Literature related to yoga on stress reduction

Literature related to prevalence of menopausal symptoms.

Sidhu et al (2000).conducted a cross sectional study on symptoms of menopause in educated women of Amirtasar. The data for this cross sectional study were collected at random from 539 women aged 40-50 years. Two hundred and fifty six women (47.50%) of the study population were classified as menopausal i.e, having irregular vaginal bleeding during the last 12 months. Median age at menopause was 47.54 ± 2.31 years which is close to the estimates from Punjabi populations. The most common

clinical symptoms associated with menopause were hot flushes and night sweats (55.08%), insomnia (53.12%), headache and body-aches (38.28%), fatigue (42.18%), irritability (35.15%), perspiration (34.76%), palpitation (22.26%), short breath (20.31%), nervous tension (10.56%) and depression (8.20%).

A cross sectional study conducted on menopausal symptoms in urban women revealed that the prevalence of menopausal symptom varied widely not only among the individuals of the same populations but also a great diversity in the nature of symptoms and frequencies across countries even in the same culture. Mean age at menopause in Indian women ranges from 40.32 to 48.84 years and in developed countries from 48.0 to 51 years. (Sharma, et al 2000).

In March 2007 observational and cross sectional study was conducted by Women and Family Welfare Clinic on menopausal symptoms in urban and rural areas in Jammu. Socioeconomic strata from Jammu as well as to evaluate the correlation of age on these symptoms by interviewing women under 40-44 years, 45-50years, and above 50years. Mean age at menopause was 47.35 years. This study revealed varying nature of symptoms with age and Mean Duration since Menopause (MDSM). Vasomotor symptoms being more prevalent with lesser Mean Duration since Menopause and psychological, rheumatic complaints were more prevalent with increasing age and MDSM in this region.

Shipra Nagar and Paul Deve 2005 conducted a study on the perception of women towards physiological problems faced at menopause. A sample of 30 married women in the age of 39 to 59 were selected through snow ball technique from socio

economic group of people in Baroda city. Results indicated that the mean age at menopause was 44 to 59 years. It was found that women reported problems like back ache, uneasiness, fatigue, increased headache, hot flushes and sleep disturbances during the menopausal period.

National Family health survey-2 analysed the issue of menopause as an emerging issue in India in 2005. They assessed the variation in the level of menopause in India and it's states. The variations with respect to different socioeconomic, demographic, and nutritional and reproductive related variables implied that a large number of women from the poor socio economic sections reached menopause early compared with their counterparts. As India is still characterized by a large number of illiterate women getting married at an early age with poor nutritional levels, the problems of early menopause may continue to be a burden in the future too.

Aaron et al 2002 conducted a population-based cross-sectional study on the quality of life of menopausal women in rural India. A significantly higher proportion of postmenopausal women suffer from vasomotor symptoms, urge incontinence, loss of sexual desire and multiple somatic symptoms. They do not link these symptoms with menopause. Poor environmental factors have a stronger association with depression than menopause.

Menopause is associated with a cluster of symptoms including hot flushes, night sweats, menstrual irregularities and vaginal dryness. Such symptoms are frequently connected to declining levels of estrogen. Although it is assumed that all women in the

menopausal transition experience these symptoms regardless of ethnic group (Gill et al 2002).

Only 5% of women between the ages of 52 and 56 years completely asymptomatic. In comparison, 11% of women in the 52-56 age range have severe menopausal symptoms (Jokinen et al 2001).

Literature related to management of menopausal symptoms

Applied Relaxation (AR) was tested in a series of six women with postmenopausal hot flushes. The AR program consisted of group instructions for 1 hour per week over a 12 week duration. The number of flushes were registered from 1 month before to 6 months after training AR. Menopausal symptoms (Kupperman Index), psychological well-being (Symptom Checklist), and mood (MOOD Scale) were measured at various moments during the study. For the six patients the number of flushes decreased from the baseline period to 6 months followed-up with 59, 61, 62, 67, 89 and 100% respectively, in mean 73%. While the scores on the Kupperman Index and the Symptom Checklist followed the pattern of the flushes, a similar trend was not seen for the scores on the MOOD Scale. (Wijima et al 1998).

In a cross sectional study conducted by Annburg et al (2003).it was found that HRT (Hormone Replacement Therapy) is still prominent for treating irregular menses, vaginal dryness, vasomotor symptoms, and decreased libido. Faculty physicians were significantly more likely than residents to use HRT for menopausal symptoms. Female physicians were more likely than male physicians to say their treatment patterns had changed as a result of the WHI (Women's Health Initiative).

As reported by Wilber et al 2005, an experimental group attended a home based moderate intensity walking program of 20-30 minutes duration, 4 times a week for 24 weeks. The intervention was not effective in reducing various menopausal symptoms. In current study exercise was defined as three or more times per week for more than 20 minutes and of moderate intensity. Regularly active women reported significant better health related quality of life scores than women who were not regularly active(Daley et al 2007).

After the advantages of hormone therapy became well- publicized, management of menopausal symptoms has become more complex and women are choosing various symptom management options as an alternative to hormone therapy such as herbal preparations, diet/nutrition, exercise programs and life style modifications (Daley et al., 2006).

Literature related to yoga

Singh, et al(2005). investigated the benefits of yoga asana for twenty participants (between the ages of 30 and 60) with mild to moderate non-insulin dependent diabetes. Participants in the yoga group practiced yoga for 30-40 minutes every morning for 40 days. Yoga participants showed the following changes after the 40-day program: reduced waist to hip ratio (high wait to hip ratio is considered a risk factor for cardiovascular and metabolic disease) and a decreases) in fasting blood glucose. There was also a marginally significant trend for reductions in postprandial (after-meal) blood glucose levels. Among obese participants (but not participants of lower weight), serum levels of insulin decreased. All of these changes are considered

positive for the management of diabetes. The control group showed no positive changes in any of these measurements.

Sripa, et al (2008). has done a randomized controlled trial and compared the benefits of yoga, walking, a wait-list control for 118 generally healthy seniors (65-85 years). The yoga and walking conditions included both group classes and a recommendation of home practice. Neither yoga nor walking improved cognitive function (including an EEG measure of alertness). Participants in the yoga condition showed improvements in physical outcomes such as balance and flexibility, quality of life outcomes such as energy and sense of well-being.

Lloyd, et al (2008). Studied the oxygen consumption and heart rate during a basic 30-minute hatha yoga routine of supine, sitting, and standing poses. He compared the metabolic demands of this yoga practice to resting in a chair and walking on a treadmill at 3.5 miles per hour. Participants were 26 women (19-40 years old). Not surprisingly, the yoga practice required greater oxygen consumption and a higher heart rate than resting in a chair, but perhaps surprisingly to some, yoga required significantly less oxygen consumption and a lower heart rate than walking.

Researchers concluded that a basic yoga practice of varied poses is "a very light intensity" form of exercise, and "may be too low to provide a training stimulus for improving cardiovascular fitness."

Bower et al (2007). researchers at the UCLA's Cousins Center for Psychoneuroimmunology reviewed published, peer-reviewed research on the benefits of yoga for cancer patients and survivors. The reviewed studies found that yoga was

associated with "moderate improvements in sleep quality, mood, stress, cancer-related distress, cancer-related symptoms and overall quality of life."

Wachholtz, and Pargament (2005). Researchers at Bowling Green State University compared the mental, physical, and spiritual health benefits of secular and spiritual forms of meditation. Participants (68 college students) were taught either a spiritual meditation technique or a relaxation technique to practice for 20 minutes a day for one week. Participants practicing spiritual meditation tolerated pain almost twice as long as the other two groups. In addition, the spiritual meditation group showed positive mental and spiritual health gains: they reported greater decrease in anxiety, greater positive mood, greater spiritual health (i.e., "feeling close to God"), and more spiritual experiences than the other two groups. Heart rate decreased for all groups while they practiced their techniques; there was no difference in heart rate between groups.

Bentler, et al (2009).conducted a prospective observational study to examine the effects of several commonly used therapies for chronic fatigue. 155 participants (135 women) were recruited from the Wisconsin Chronic Fatigue Syndrome. Participants were not assigned to use any specific therapy, but reported the therapies that they tried over the course of two years. Participants reported a wide variety of therapies, including: prescribed medications, non-prescribed supplements and herbs, lifestyle changes, alternative therapies (including yoga), and psychological support. Yoga was associated with reduced fatigue at the two-year follow-up. The authors identified yoga as the most promising alternative therapy for chronic fatigue.

Sagula, & Rice, (2007). examined whether mindfulness practices could reduce the emotional toll of chronic pain. 39 individuals with chronic pain (29 women) attended eight weekly mindfulness sessions and practiced at home daily. Sessions and home practices included breath meditation, body awareness and gentle hatha yoga. 18 individuals with chronic pain (11 women) served as a control group and did not participate in any sessions or home practice. Researchers found that the meditation and yoga group also reported a decrease in maladaptive coping strategies (such as avoidance or pessimism) over the course of the study. Researchers concluded that mindfulness practices can be an important part of chronic pain treatment.

Oken,et al (2004). examined the effects of yoga and aerobic exercise on cognitive function, fatigue, mood and quality of life in individuals with multiple sclerosis: 69 individuals were taught Iyengar yoga class weekly along with home practice, weekly exercise class using a stationary bicycle along with home exercise or a waiting-list control group. (57 participants completed the study.) Both yoga and aerobic exercise was associated with improvement in energy and fatigue compared to the control group.

Literature related to yoga on stress reduction

Granath, et al (2006). compared the psychological and physiological benefits of a Kundalini yoga program and a stress management program based on cognitive behavioral therapy principles. 33 employees (26 women) at a large Swedish company were randomly assigned to one of the two programs. Participants in both groups showed significant improvements in both psychological (self-rated stress and stress

behavior, anger, exhaustion, quality of life) and physiological (blood pressure, heart rate, urinary catecholamines, salivary cortisol) outcomes. There was no significant difference between groups. The authors concluded that both "cognitive behaviour therapy and yoga are promising stress management techniques."

In 2008, researchers at the University of Utah presented preliminary results from a study of varied participants' responses to pain. They note that people who have a poorly regulated response to stress are also more sensitive to pain. Their subjects were 12 experienced yoga practitioners, 14 people with fibromyalgia (a condition many researchers consider a stress-related illness that is characterized by hypersensitivity to pain) and 16 healthy volunteers. When the three groups were subjected to more or less painful thumbnail pressure, the participants with fibromyalgia as expected perceived pain at lower pressure levels compared with the other subjects. The study underscores the value of techniques, such as yoga, that can help a person regulate their stress and therefore pain responses.

West, et al (2004). examined the psychological and neuroendocrine effects of yoga and dance. Sixty-nine healthy college students participated in one of three 90 minute classes: African dance, Hatha yoga, or a biology lecture. Before and after the class, participants completed two self-report measures: the Perceived Stress Scale (PSS) and the Positive Affect and Negative Affect Schedule (a measure of positive and negative emotions). Participants also provided saliva samples for cortisol analysis (cortisol is a stress hormone; saliva levels reflect both psychological states as well as a number of other factors, including time of day). Both dance and yoga decreased perceived stress and negative affect. Only dance increased positive affect. Only yoga

decreased salivary cortisol. These results are consistent with previous studies: most forms of exercise increase salivary cortisol (simply because of increased physiological arousal) but yoga decreased cortisol (possibly because yoga practice ends with relaxation).

Bormann,et al (2005). examined the benefits of a mantram meditation on perceived stress, anxiety, anger, symptoms of post traumatic stress disorder (PTSD), quality of life, and spiritual well-being. 62 outpatient veterans participated in the full study. The intervention included 5 classes:1) How to Choose a Mantram, 2) How to Use and Track Mantram Practice, 3) Developing One-Pointed Attention, 4) Slowing Down, and 5) Putting it all Together. Participants were taught how to use their mantram in everyday life and activities rather than as practice limited meditation. Participants reported significant improvements in all outcomes: stress, anxiety, anger, quality of life and spiritual well-being.

Michalsen, et al (2005) .investigated the benefits of an Iyengar yoga practice on stress, anxiety, depression and physical well-being among distressed women. The yoga intervention consisted of one week 30-min Iyengar yoga classes with a certified and experienced Iyengar instructor. The classes focused on poses that are hypothesized in the Iyengar tradition to reduce stress. These include backbends, standing poses, forward bends and inversions.

Compared to the wait-list control group, the yoga group showed significant reductions in stress, anxiety, fatigue, depression, headaches and back pain. The yoga group showed significant increases in well-being. Kiruba et al (2006) conducted a study

to assess the effectiveness of yoga to decrease psychological problems among post menopausal women. 30 participants were given yoga practice 30 minutes for one week. After one week the experimental group showed significant reduction of psychological problems and stress.

Yuvarani et al (2007). has conducted a study to assess the effectiveness of yoga to decrease stress among pregnant women. 30 participants were given yoga practice 30 minutes for one week. After one week there was no change in the stress level among the control group. The experimental group showed significant reduction in stress level.

Summary

This chapter has dealt with the review of literature related to problem stated. In this present study researcher collected the review from 26 primary sources and 8 secondary sources. It has also enabled the researcher to design the study and to develop the tool, plan the data collection procedure and to analyze the data

CHAPTER III

RESEARCH METHODOLOGY

The methodology of the research study is defined as the way data are gathered in order to answer the research questions or to analyze research problem. Research methodology involves a systematic procedure by which the researcher starts from the initial identification of the problem to its final conclusion.

This chapter deals with a brief description on steps undertaken by the investigator for the study. It includes research approach, setting, population, sample, sampling technique, selection of tool, content validity, reliability, pilot study, data collection procedure and plan for data analysis.

Research approach

Research approach is the most significant part of any research. The appropriate choice of research approach depends on the purpose of the research study which is undertaken. According to Polit and Beck 2004, an experimental research is generally applied where the primary objective is to determine the extent to which a given procedure needs the desired results. In this study the investigator wanted to assess the stress level of post menopausal women. An experimental approach was used in this study.

Research design

The research incorporates the important methodological design that a researcher works in conduction of a research study (Polit and Beck 2004). The research design used in the study is true experimental research design.

R O1 X O2

R O3 - O4

R - Randomization

O 1 - Pre test (Experimental group)

X - Yoga

O2 - Post test (Experimental group)

O 3 - Pre test (control group)

O 4 - Post test (control group)

Intervention: Yoga Hatha yoga which includes **warm-up exercises** (**Neck rotation**- Take deep breath while extending neck at the back and exhale while flexing the neck towards chest, **Wrist rotation**- Make a closed fist in both hands, inhale while moving the fist upward and exhale while moving downward, **Knee bending**- Flex the knee and move towards the abdomen while inhaling and bring back to normal position while exhaling. Repeat in both the legs. **Ankle rotation**- Extend the toes while inhaling and flex the toes while exhaling.)

Pranayama, (Close the right nostril with thumb, inhale through the left nostril then exhale. Close the left nostril with ring finger and small finger inhale then exhale through the right nostril. **Alternate breathing** - Close the right nostril with thumb, inhale through the left nostril then exhale through the right nostril. Close the left nostril

with ring finger and small finger, inhale through the right nostril and exhale through the left nostril)

Seethali Pranayama (Sit in padmasana, fold the tongue like whisling, inhale through the tongue fold and exhale slowly through the same.)

Vajrasana (Flex both knees at the back sit on the legs, keep both the hand on the abdomen, take deep breath while sitting straight and exhale while bending forward towards ground)

Shashangasana (Sit in position for vajrasana, extend both the hands to touch the floor and repeat the steps of vajrasana)

Yoni Muthra (Sit in padmasana, join both the thumb together and join the index finger forward to make a triangle and place it on the lower abdomen. Slowly and deeply inhale then exhale)

Yoga techniques were demonstrated to the samples by the researcher. Intervention was given everyday evening for 7 consecutive days for 30 minutes. Post menopausal women have practiced the yoga techniques in the presence of the researcher everyday.

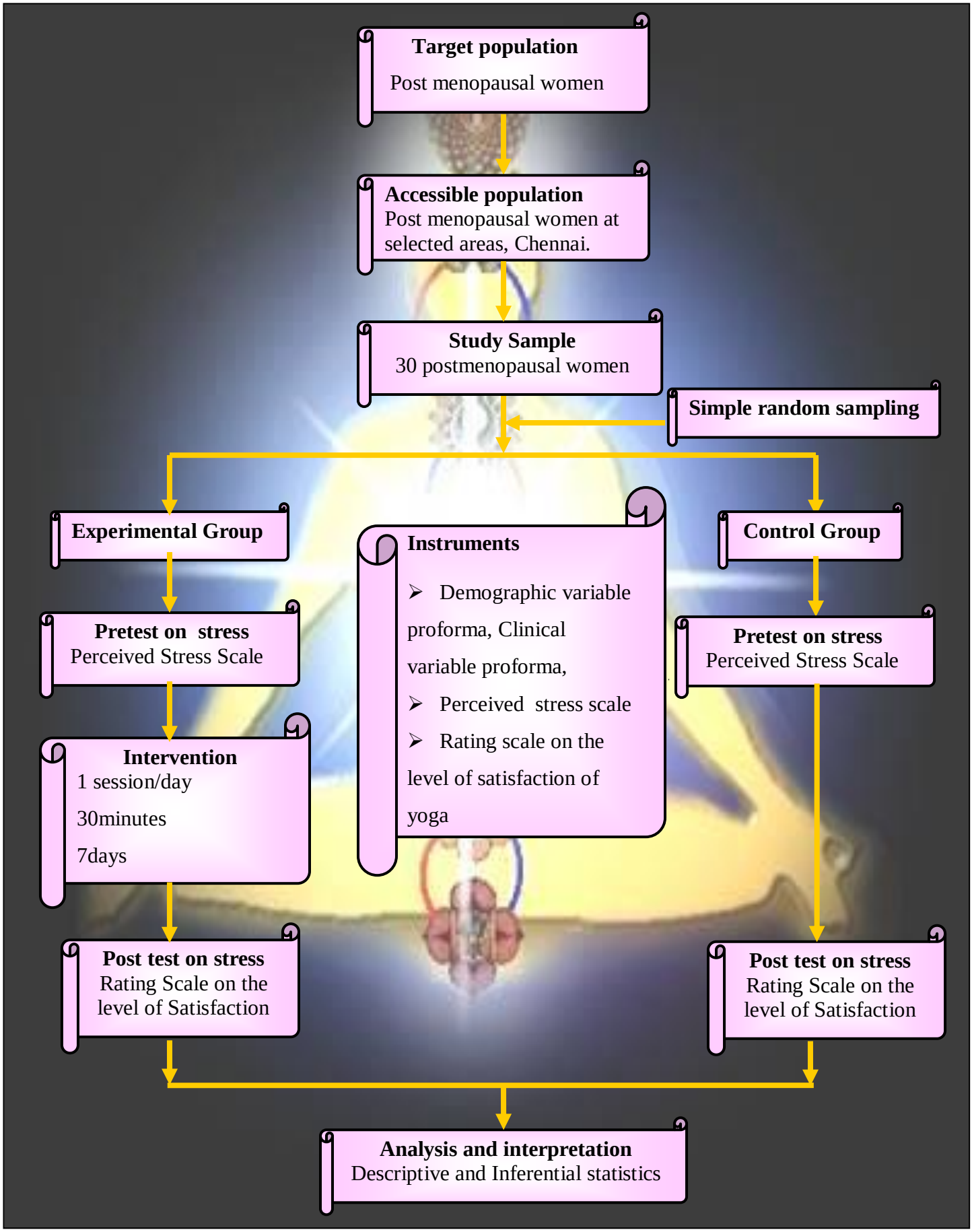


Fig.2. Schematic Representation of Research Design

Research setting

The physical location and condition in which data collection takes place in the study (Polit and Hungler, 2008).

The study was conducted at Ayanambakkam village, Chennai. Ayanambakkam is a rural area belonging to Thiruvallur District, Ambattur Taluk. It comes under 3rd grade municipality. In this village there are around 500 houses with a population of 2500. Among them 650 are senior citizens. The village has all medical facilities like private clinics, subcenter, hospital and Apollo Rural Health Center also render services to all minor problems of the people in the village. There are around 195 menopausal women between 41-55 years.

Population

Population is the entire aggregation of the cases which meet designated set of criteria (Polit and Hungler, 2008). **Target population** is the group of population that the researcher aims to study and whom the study findings will be generalized. In this study target population comprises of all post menopausal women within 55 years and who satisfy the inclusion criteria.

The accessible population is the list of population that the researcher finds in the study area, the accessible population in this study was post menopausal women who satisfy the inclusion criteria at Ayannambakkam, Chennai.

Sample

Sample consists of the subset of the units that comprises the population (Polit and Beck 2006). A sample of 60 post menopausal women were chosen (30 in the experimental group and 30 in the control group) to participate in the study.

Sampling technique

Two settings (Mel Ayanambakkam & Kil Ayanambakkam) were chosen conveniently by the researcher. These settings were allotted to the experimental and the control group through randomization. In each setting 30 sample were chosen using the simple random sampling technique.

Sampling criteria

Inclusion criteria

The study includes

- Post menopausal women within the age of 55.
- Women who attained menopause at least one year before the data collection. (Cessation of the menstrual period at least for one year after 40 years)
- Post menopausal women who are residing in Kil Ayanambakkam and Mel Ayanambakkam
- Post menopausal women who can speak and understand English or Tamil
- Post menopausal women willing to participate in the study

Exclusion criteria

The study excludes

- Post menopausal women have major problems like renal failure, stroke and obvious mental illness etc.
- Post menopausal women who have gross, visual, or auditory impairment.
- Post menopausal women who are taking hormonal therapy.
- Post menopausal women who have undergone hysterectomy.

Selection and development of study instruments

The study aimed to evaluate the effectiveness of yoga upon post menopausal women within 55 years. The instruments used in this study were Demographic variable proforma, Clinical variable proforma, Cohen et al Perceived stress scale (1983) and Rating scale on the level of satisfaction of yoga.

Demographic variable proforma

This proforma is used to measure the demographic variables such as age, religion, marital status, educational status, occupational status, family income, financial status, type of family, number of children, nature of work and food habits. The investigator collected data by interviewing the samples.

Clinical variable proforma

This proforma is used to measure the clinical variable such as height, weight, body mass index, chronic illnesses, duration after menopause, knee and joint pain and sleep disturbances. The investigator collected data by interviewing the samples.

Perceived stress scale

It is the standardized tool developed by Cohen et al (1983). The level of stress among post menopausal women was assessed by using perceived stress scale. The instrument had 14 items on stress. There are about 7 positive statements and there are about 7 negative statements. It was categorized into 5 aspects, the response categorized were in scale format with a score of 0, 1, 2, 3, 4 respectively. Each positive statement was scored as from 1-4 and each negative statement was scored as from 4-1. The total score of perceived stress scale was 56. (Cohen et al 1983)

Negative Statements items no: 1, 2, 3, 8, 11, 12and 14

Positive Statements items no: 4, 5, 6, 7, 9, 10 and 13

Level of stress was interpreted by the researcher as follows for the sake of analysis

Score	**Percentage**	**Level of Stress**
≤ 27	<50%	Mild
28-41	50 - 75%	Moderate
>41	>75%	Severe

Rating scale on the level of satisfaction regarding Yoga

The 4 point Rating scale on Level of satisfaction regarding yoga was prepared by the investigator carefully considering the language, clarity, organization and

sequence of items. The questions were formulated and options were given as Highly Satisfied, Satisfied, Dissatisfied and Highly Dissatisfied (4-1). Total obtainable score is 12 - 46.

Interpretation

Score	**Percentage**	**Level of Satisfaction**
≤ 36	<76 - 100%	Highly satisfied
23-35	50 - 75%	Satisfied
11-22	25 - 49	Dissatisfied
≤ 10	<25	Highly dissatisfied

Validity of the study instruments

Content validity is the degree to which the items in an instrument adequately represents the universe of the content (Polit& Beck 2006). The tool was submitted to 5experts in the field of nursing and medicine to establish the content validity. The modifications and suggestions of experts were incorporated in the final draft of the tool. The content validity refers to the adequacy of the domain being studied. Content validity of the tool was obtained by getting opinion from 6 experts.

Reliability of the instruments

Reliability refers to the accuracy and consistency of the measuring tool. For Perceived Stress Scale the reliability related to internal consistency (measured by Cronbach‘s alpha) was 0.81 for the whole PSS. 0.77.Test-retest reliability was 0.81 which showed high positive correlation. The reliability of the Tamil version of the tool

was determined by using split half method and the reliability coefficient was found to be 0.84. Hence the tool was considered reliable for proceeding with the main study.

Selection and development of interventions

The intervention used in this study was Hatha yoga which includes warm-up exercises, Pranayama, Vajrasana, Shashangasana, Seethali Pranayama and Yoni Muthra focusing on reduction of stress and promoting relaxation. The intervention was presented to experts in the field of psychiatric nursing and naturopathic medicine and modifications were made according to their suggestions. The programme was conducted for about 30 minute's everyday evening for 7 consecutive days.

Pilot study

Polit and Beck (2004).states that a pilot study is a miniature version of some parts of actual study in which the instruments are administered to the subjects drawn from the same population. It is a small version or trial run, done in preparation for the major study. The purpose is to find out the feasibility and practicability of the study design. A pilot study was conducted among post menopausal women who satisfied the eligibility criteria at Ayanambakkam, Chennai. The study participants were chosen by simple random sampling and assessed using validated tool. It was found that the selected tools were practicable to use and understandable by the clients with some assistance. It was also found that it would be feasible to conduct the study in research setting.

Data collection procedure

Data collection is the gathering of information needed to address a research problem. The data collection was done for a period of 5 weeks, i.e. from 1st of May to 30th of May, 2010. Permission was obtained from the Principal of Apollo College of Nursing, Head of the Department of Psychiatric Nursing and the area Counselor of Ayanambakkam. The researcher chose the clients by identifying them through oral interview and personal interaction with them.

The researcher introduced herself and obtained consent from the clients to participate in the study after giving assurance regarding confidentiality. The researcher collected data (pretest) from the clients through interview method. Yoga was administered for about 30 minutes everyday in the evening between 5pm to 6.30pm (including preparation time) for 7 consecutive days. The researcher demonstrated the yoga techniques to the participants followed by return demonstration. Then they practiced the yoga in the presence of the examiner on the following consecutive days for 7 days. Post test was conducted after 7 days, using the same tool and the level of satisfaction of the post menopausal women was assessed using the rating scale on level of satisfaction. In control group pre tests and post tests (with one week interval) were conducted with out intervention.

Problems faced during data collection

Problems faced during the process of study was

- Few of them showed unwillingness to participate in the study.

- Few of them had preconceived idea that it is difficult to learn Yoga which was clarified by the investigator.

Plan for data analysis

Data analysis is the systematic organization, synthesis of research data and testing of null hypotheses by using the obtained data (Polit & Beck, 2004). Analysis and interpretation of the data were carried out by using descriptive and inferential statistics Descriptive statistics such as mean, frequency, percentage and standard deviation were used to describe the demographic variables, clinical variables, and the stress level of post menopausal women. Inferential statistics such as paired-test (to analyze the difference in stress level before and after administration of yoga), independent t-test (to analyze the difference in the stress level before and after the administration of yoga between the experimental and control groups) and chi square test (to analyze the association between stress level and selected variables of post menopausal women with stress) were used.

Intervention Protocol

The intervention used in this study was Hatha yoga which includes warm-up exercises, Pranayama, Vajrasana, Sasangasana, Seethali Pranayama and Yoni Muthra focusing on reduction of stress and promoting relaxation. Yoga was administered for about 30 minutes everyday in the evening between 5pm to 6.30pm (including preparation time) for 7 consecutive days. The researcher demonstrated the yoga techniques to the participants followed by return demonstration. Then they practiced the yoga in the presence of the examiner on the following consecutive days for 7 days.

Summary

This chapter has dealt with the selection of research approach, research design, setting, population, sample, sampling technique, sampling criteria, selection and development of study instruments, reliability and validity of study instruments, pilot study, data collection procedure and plan for data analysis. The following chapters deal with analysis and interpretation of data by using descriptive and inferential statistics.

Chapter-IV
Analysis & Interpretation

CHAPTER IV

ANALYSIS AND INTERPRETATION

This chapter includes both descriptive and inferential statistics. Statistics is a field concerned with techniques or methods of data collection, classification, summarizing, drawing inferences, testing of hypothesis and making recommendations, (Mahajan ,2004).

The data was collected from 60 post menopausal women regarding stress level, (30 postmenopausal women in the control group and 30 post menopausal women in the experimental group) to determine the effectiveness of yoga. The data were analyzed according to the objectives and hypotheses of the study. Analysis of data was completed after all the data were transferred to the master data coding sheet. The researcher used appropriate descriptive and inferential statistics for analysis.

The data was analyzed, tabulated and interpreted using descriptive and inferential statistics in the sequence as follows:

Organization of the Findings

- Frequency and percentage distribution of demographic variables of post menopausal women in the experimental and control groups.
- Frequency and percentage distribution of clinical variables of post menopausal women in the experimental and control groups.
- Comparison of mean and standard deviation of stress level of post menopausal women before and after yoga in the experimental and control groups.

- Comparison of mean and standard deviation of stress level of post menopausal women before and after yoga in the experimental and control groups.
- Frequency and percentage distribution of level of satisfaction of yoga in the experimental group.
- Item wise frequency and percentage distribution of level of satisfaction regarding yoga in the experimental group.
- Association between the selected demographic variables and stress level of post menopausal women before and after yoga in the experimental group.
- Association between the selected demographic variables and stress level of post menopausal women before and after yoga in the control group.
- Association between the selected clinical variables and stress level of post menopausal women before and after yoga in the experimental group.
- Association between the selected clinical variables and stress level of post menopausal women before and after yoga in the control group.

Table 1

Frequency and percentage distribution of demographic variables of post menopausal women in the experimental and control groups.

(N=60)

Demographic variable	Experimental group		Control group	
	Frequency n	Percentage p	Frequency n	Percentage p
Age in years				
40 -45	7	23	10	33
46 -50	8	27	10	33
51 -55	15	50	10	33
Religion				
Hindu	17	56	12	40
Christian	13	44	18	60
Muslim	-	-	-	-
Others (specify)	-	-	-	-
Marital Status				
Married	29	97	24	80
Unmarried	-	-	-	-
Separated/divorced	1	3	2	7
Widow	-	-	4	13
Educational Status				
Illiterate	20	66	20	66
Primary education	6	20	7	23
secondary education	4	14	2	7
Higher secondary	-	-	1	4
College and above	-	-	-	-
Occupational Status				
Employed in some organization	-	-	-	-
Coolie	4	13	8	27
House wife	26	87	22	73
Family income				
< 3000	16	54	19	63
3000 - 5000	10	33	10	33
5001 – 8000	4	13	1	4
>8000	-	-	-	-

Financial status				
Independent	4	13	8	27
Dependent	26	87	22	73
Nature of Work				
Sedentary work	-	-	-	-
Moderate work	4	13	8	27
Heavy work	-	-	-	-
Not working	26	87	22	73
Food Habits				
Vegetarian	-	-	-	-
Non vegetarian	30	100	30	100

Table 1 shows that in the control and experimental groups majority of them were married (80%, 97%), house wives (73%, 87%), dependent (73%, 87%) and all of them were non vegetarian (100%, 100%). Their age group was between 51-55 (33%, 50%) and they belonged to Hindu religion (40%, 56%), illiterate (66%, 66%) and had family income of <3000 (63%, 54%). Twenty seven percentage of them in the control group and 13% of them in the experimental group were moderate workers.

From the Fig 3. it has been noted that in the control and experimental group most of the post menopausal women were in nuclear family (67%, 47%).

From the Fig 4.depicts that significant percentage of the post menopausal women had 3 children in the control group and experimental group (50%, 33%).

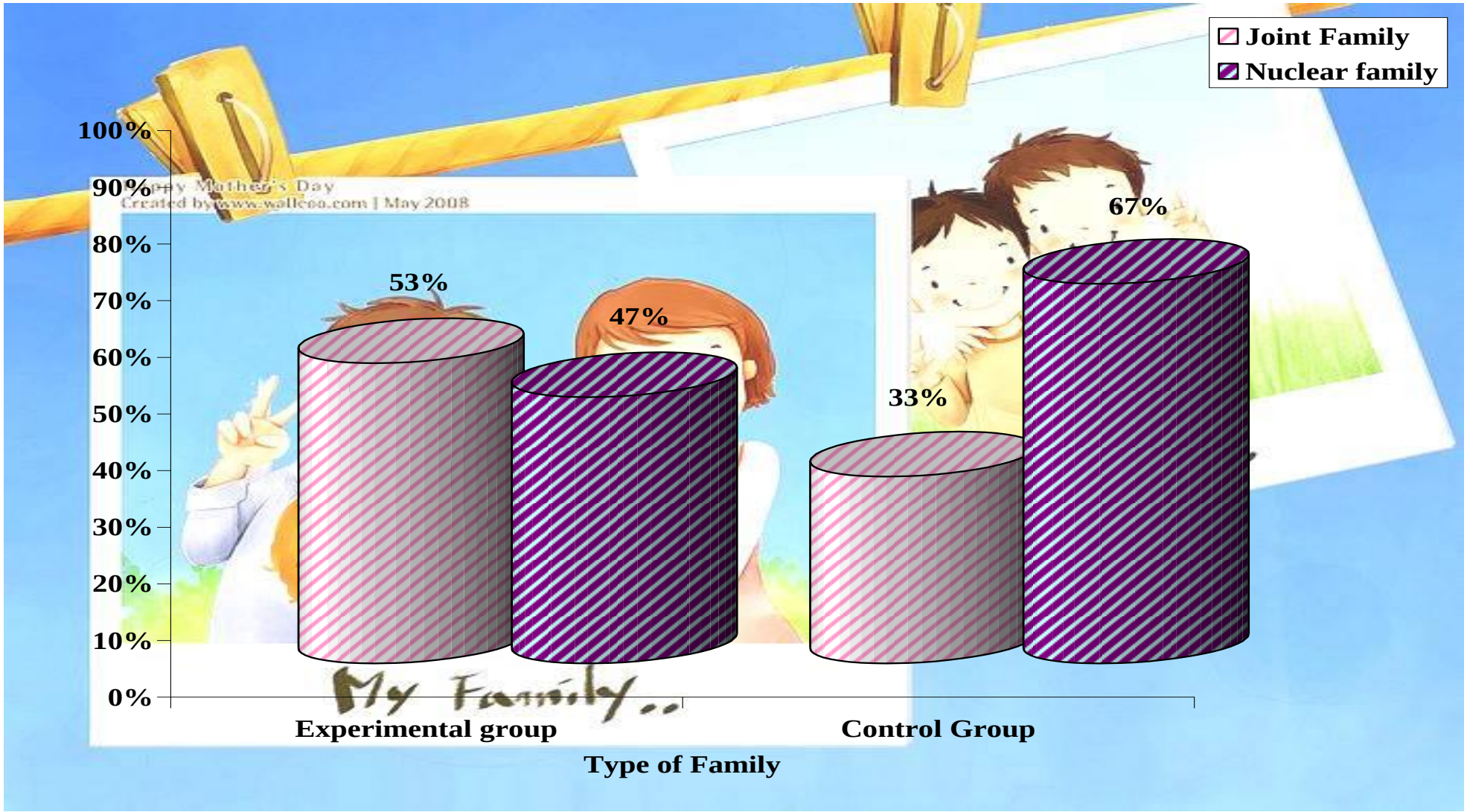


Fig.3 Percentage distribution of type of family among postmenopausal women in the Experimental and Control Groups.

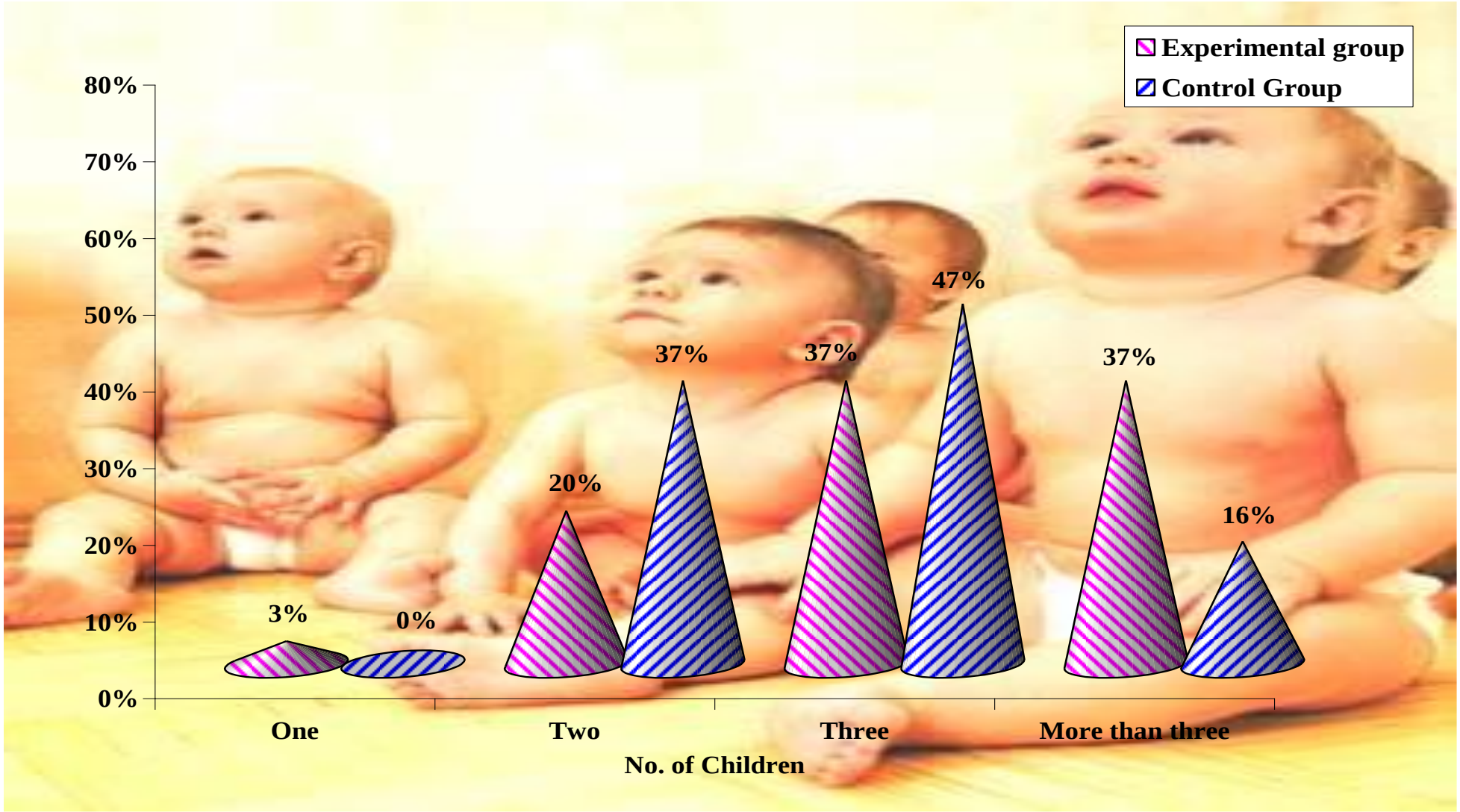


Fig: 4. Percentage distribution of number of children among postmenopausal women in the Experimental and Control Groups.

Table 2

Frequency and percentage distribution of clinical variables of post menopausal women in the experimental and control groups.

(N=60)

Clinical Variables	Experimental group		Control group	
	n	p	n	p
Body Mass Index				
<25	9	30	5	17
26-30	15	50	20	66
31- 35	3	10	5	17
>35	3	10	-	-
History of illness				
Hypertension	6	20	8	27
Diabetes mellitus	6	20	9	30
Both	2	7	3	10
Others	-	-	-	-
Nil	16	53	10	33
Duration Of Hypertension				
<2 years	3	10	3	10
3-5 years	3	10	3	10
>5 years	-	-	2	7
Nil	24	80	22	73
Duration of Diabetes Mellitus				
1-2 years	2	7	6	20
3-5 years	1	3	2	7
>5 year	3	10	1	3
Nil	24	80	21	70
Knee and Joint Pain				
Yes	26	87	29	97
No	4	13	1	3
Sleep disturbance				
Yes	28	93	26	87
No	2	7	4	13

From Table 2, in this present study majority of them had knee and joint pain (97%, 87%) and sleep disturbances (87%, 93%) in the control and experimental groups. Most of them had over weight problem (66%, 50%) and only some of them had diagnosed problems such as Hypertension (27%, 20%), Diabetes (20%, 20%).

From Fig. 5, it has been noted that 47% of the postmenopausal women in the control group and 33% of postmenopausal women in the experimental group had chronic illnesses.

From Fig.6 depicts that in this study significant percentage of the post menopausal women had 2-5 years of duration after menopause (33%, 47%).

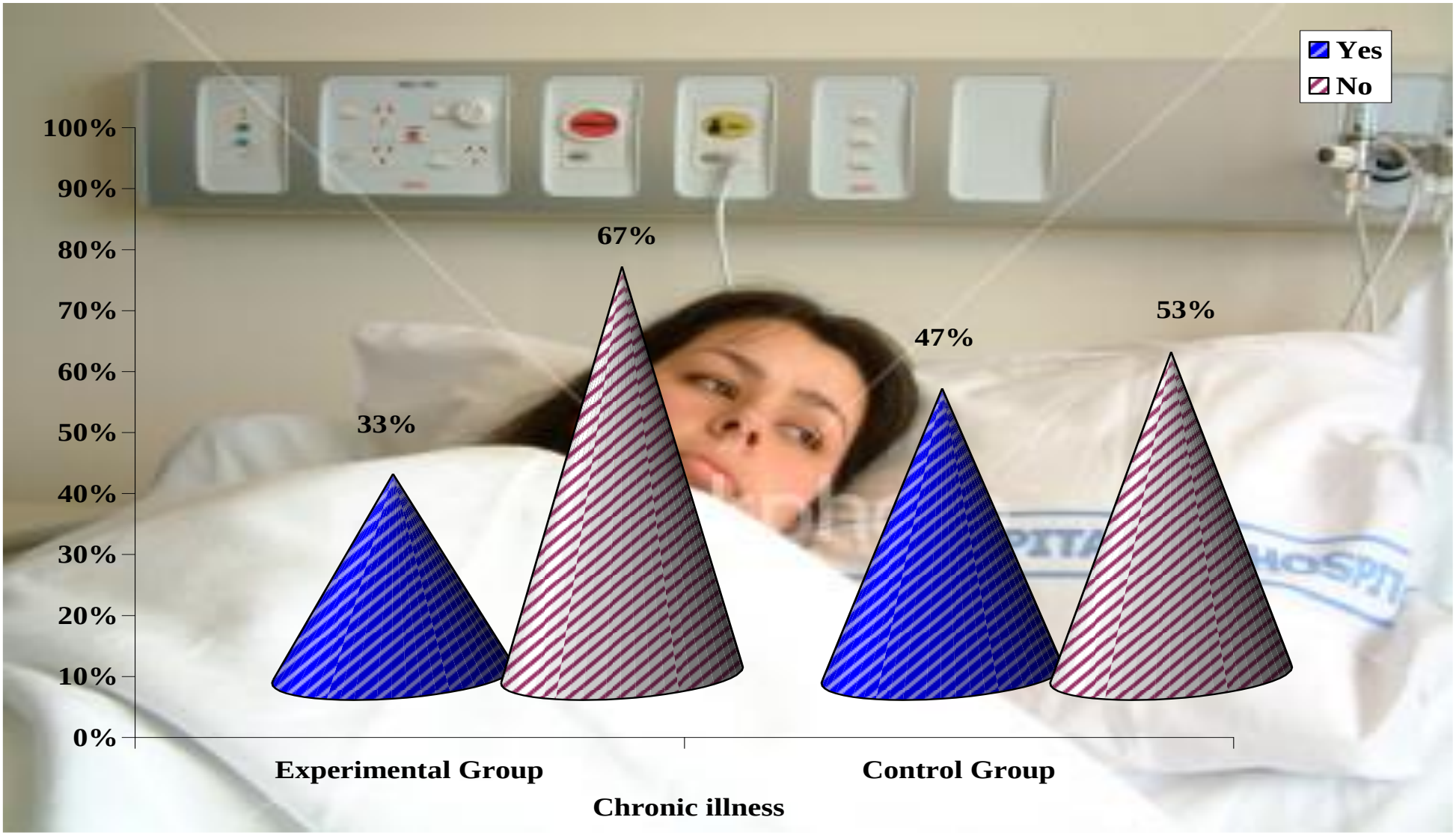


Fig 5. Percentage distribution of Chronic illness among postmenopausal women in the Experimental and Control Groups.

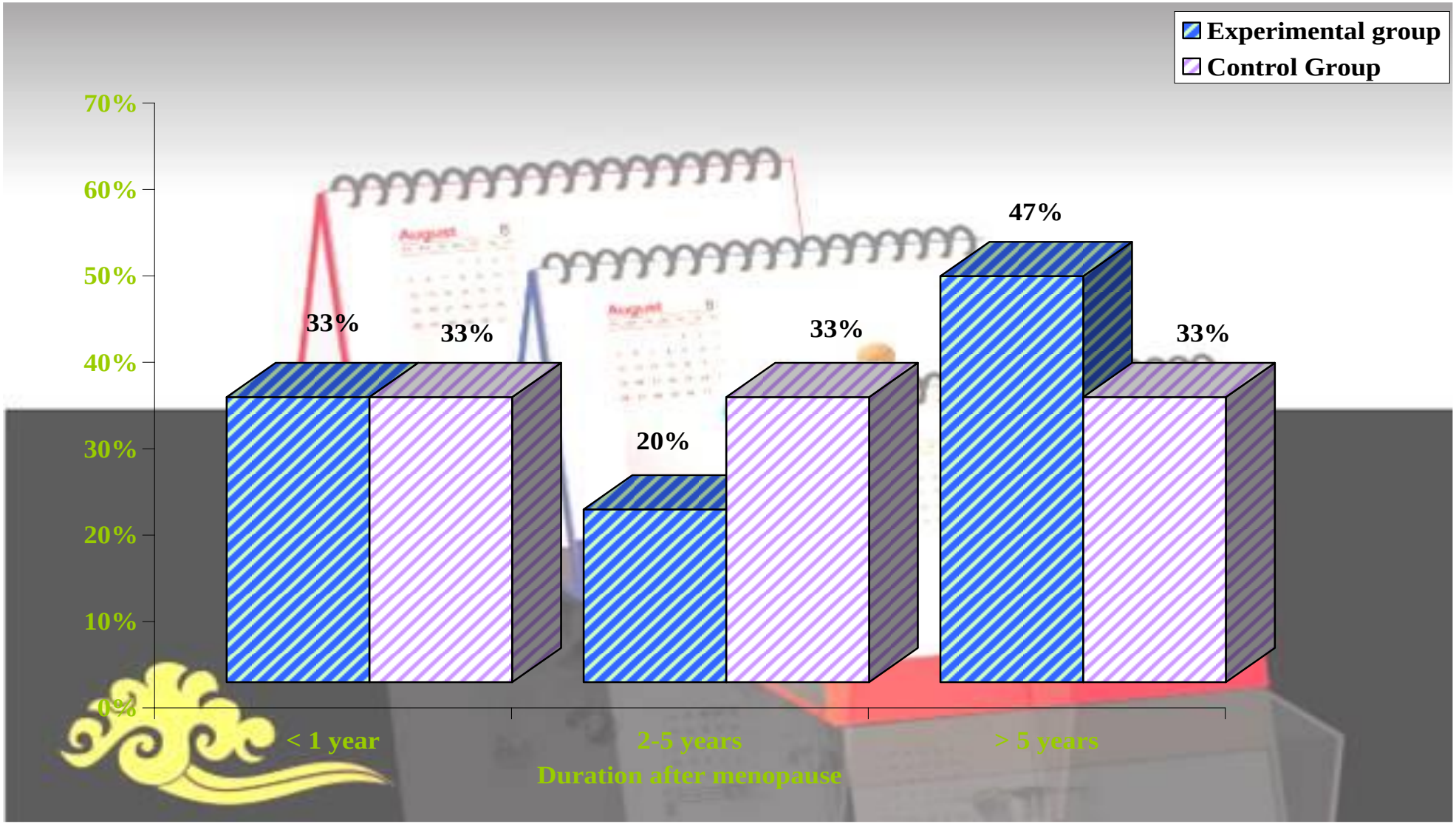


Fig. 6. Percentage distribution of duration after menopausal among postmenopausal women in the Experimental and Control Groups.

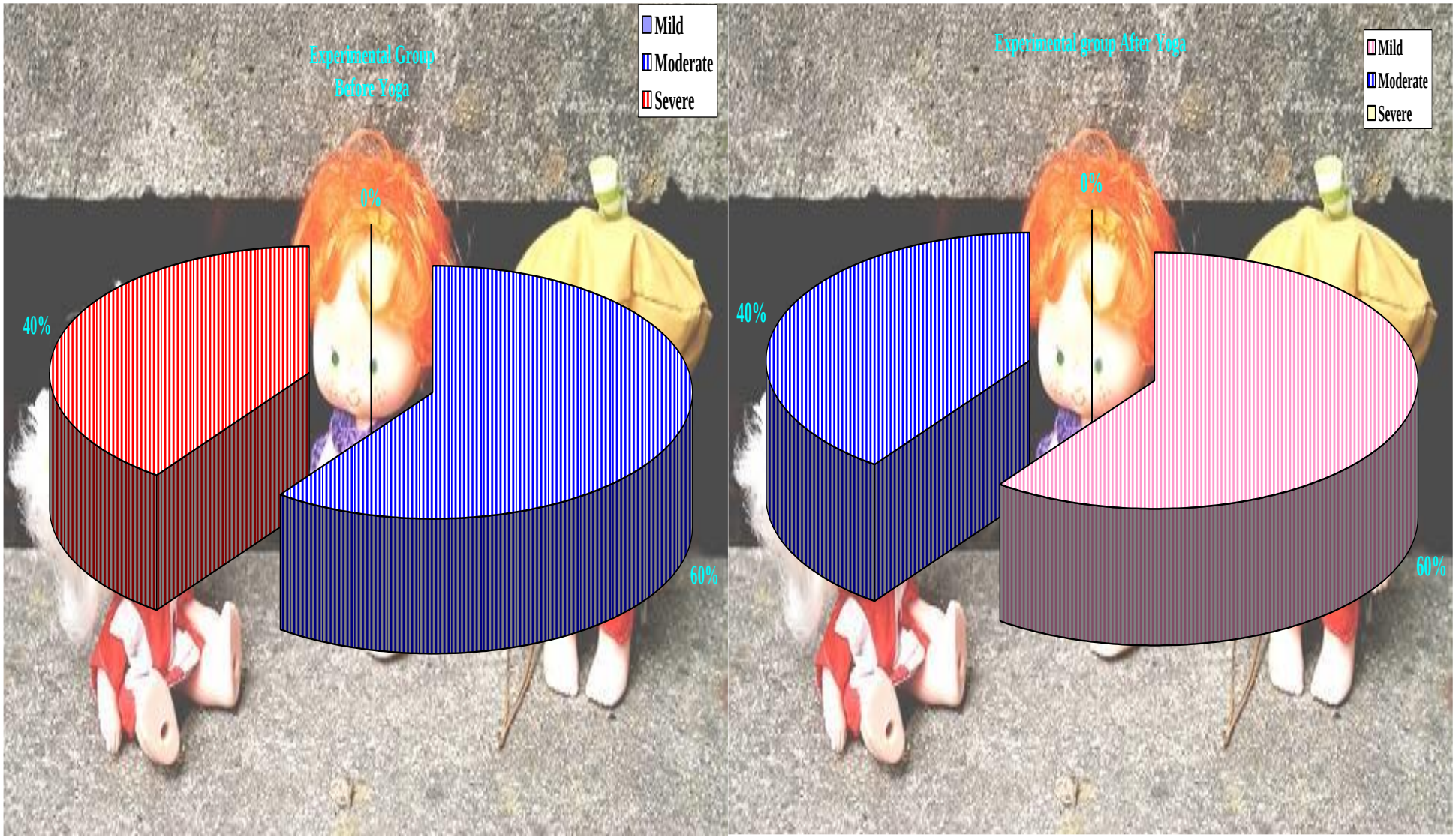


Fig. 7. Percentage distribution of Level of Stress among postmenopausal women in the Experimental group.

Fig. 8. Percentage distribution of Level of Satisfaction among postmenopausal women in the Experimental Group.

Table 3

Item wise frequency and percentage distribution of the level of satisfaction regarding yoga in the experimental group.

(N=30)

Content	Response Category							
	Highly Satisfied 4		Satisfied 3		Dissatisfied 2		Highly Dissatisfied 1	
	n	p	n	p	n	p	n	p
I feel more comfortable about yoga practice	20	67	10	33	-	-	-	-
Duration of yoga practice is convenient for me	18	60	12	40	-	-	-	-
I like to do it regularly	21	70	9	30	-	-	-	-
It improves my self image	19	63	11	37	-	-	-	-
I experience decrease in mental stress	24	80	6	20	-	-	-	-
My mind is relaxed after breathing exercise	22	73	8	27	-	-	-	-
It improves my inner feelings and peace of mind.	17	57	13	43	-	-	-	-
I am able to cope up with stress effectively	23	77	7	23	-	-	-	-
The researcher explained clearly about the intervention	22	73	8	27	-	-	-	-
The researcher cleared all the doubts I had about the intervention	21	70	9	30	-	-	-	-
I am satisfied with the manner of demonstration	23	77	7	23	-	-	-	-
The researcher was present throughout the procedure	20	67	10	33	-	-	-	-

From Table 3, we conclude that 23 of the post menopausal women (77%) and 7 of them in the experimental group were highly satisfied about their ability to cope with stress effectively and the manner of demonstration after the administration of yoga. Over all 77% of the postmenopausal women were highly satisfied regarding the administration of yoga and 23% of them were satisfied about the administration of yoga in the experimental group.

Table 4

Comparison of mean and standard deviation of stress level of post menopausal women before and after yoga in the experimental and control groups.

(N=60)

	Pretest		Post test		
Level of stress	**Mean**	**Standard deviation**	**Mean**	**Standard deviation**	**t value#**
Experimental group	40	8	27	5	16***
Control group	39	9	37	8	2.5

***P<0.001 #- Paired 't' test

From the table 4, we inferred that the mean and standard deviation of stress level in pretest and posttest in the control group is 39±9 and 37 ± 8 ($p>0.05$) whereas in experimental group it is 40 ±8 and 27± 5 ($p<0.001$) which indicates that yoga is effective in reducing stress level among postmenopausal women. Thus the null hypothesis Ho1 was rejected.

Table 5

Comparison of mean and standard deviation of stress level of post menopausal women before and after yoga in the experimental and control groups.

(N=60)

Group	Mean	Standard deviation	t value#
Before Yoga			
Experimental group	40	8	0.05
Control group	39	9	
After Yoga			
Experimental group	27	5	4***
Control group	37	8	

***P<0.001 #-independent 't' test

From the table 5, we inferred that the mean and standard deviation of stress level before the administration of yoga in experimental and control groups (40 ± 8, 39 ± 9) which is not significant (p>0.05).Whereas after the administration of yoga the mean and standard deviation were less in the experimental group (27 ± 5) in comparison with the control group (37 ± 8). The difference was found statistically significant at p<0.001 level of confidence and it can be attributed to the effectiveness of yoga.

Table 6

Association between the selected demographic variables and the stress level of post menopausal women before and after yoga in the experimental group.

(N=30)

Demographic variable	Pre test Level of Stress						χ^2	Post test Level of Stress						χ^2
	Mild		Moderate		Severe			Mild		Moderate		Severe		
	n	p	n	p	n	p		n	p	n	p	n	p	
Age In Years														
40 -45	-	-	1	3	6	20	0.52	1	3	6	20	-	-	0.51
46 -50	-	-	7	24	1	3	(df=1)	7	24	1	23	-	-	(df=
51 -55	-	-	9	30	6	20		9	30	6	20	-	-	1)
Religion														
Hindu	-	-	9	30	7	23	0.073	10	33	5	17	-	-	0.05
Christian	-	-	8	27	6	20	(df=1)	7	23	8	27	-	-	(df=
Muslim	-	-	-	-	-	-		-	-	-	-	-	-	1)
Others (specify)	-	-	-	-	-	-		-	-	-	-	-	-	
Marital Status														
Married	-	-	16	54	13	43	0.12	16	54	13	43	-	-	0
Unmarried	-	-	-	-	-	-	(df=1)	-	-	-	-	-	-	(df=
Separated/ divorced	-	-	1	3	-	-		1	3	-	-	-	-	2)
Widow	-	-	-	-	-	-		-	-	-	-	-	-	
Educational Status														
Illiterate	-	-	12	40	7	23		12	40	10	33	-	-	
Primary education	-	-	4	13	2	7	0.41 (df=1)	4	14	-	-	-	-	3
secondary education	-	-	1	3	4	14		1	3	3	10	-	-	(df= 1)
Higher secondary	-	-	-	-	-	-		-	-	-	-	-	-	
College and above	-	-	-	-	-	-		-	-	-	-	-	-	

Occupational Status														
Employed in some organization	-	-	-	-	-	-	0.074 (df=1)	-	-	-	-	-	-	0.07 (df=1)
Coolie	-	-	2	7	2	7		2	7	2	7	-	-	
House wife	-	-	15	50	11	36		15	50	11	34	-	-	
Family Income	-	-	8	27	8	27		7	23	8	27	-	-	
< 3000	-	-	6	20	4	12	0.079	7	23	4	13	-	-	0.07
3001 - 5000	-	-	2	7	2	7	(df=1)	2	7	2	7	-	-	(df=1)
5001 –8000	-	-	-	-	-	-		-	-	-	-	-	-	
>8000														
Financial Status														
Independent	-	-	2	7	2	7	0.074	2	7	2	7	-	-	0.07
Dependent	-	-	15	50	11	36	(df=1)	15	50	11	36	-	-	(df=1)
Type Of Family	-	-	10	33	6	21	0.8	10	33	6	20	-	-	0.48
Joint family	-	-	7	23	7	23	(df=1)	7	23	7	24	-	-	(df=1)
Nuclear family	-	-	-	-	-			-	-	-	-	-	-	
Extended family														
Number Of Children														
1	-	-	1	3	1	3	0.17	1	3	1	3	-	-	0.19
2	-	-	2	7	3	10	(df=1)	2	7	3	10	-	-	(df=1)
3	-	-	6	20	5	17		6	20	4	14	-	-	
>3	-	-	7	23	5	17		7	23	6	20	-	-	
Nature Of Work														
Sedentary work	-	-	-	-	-	-	0.74	-	-	-	-	-	-	0.07
Moderate work	-	-	2	7	2	7	(df=1)	2	7	2	7	2	7	(df=1)
Heavy work	-	-	-	-	-	-		-	-	-	-	-	-	
Not working	-	-	15	50	11	36		15	50	11	36	-	-	

From Table 6, indicates that there was no significant association between age, religion, marital status, educational status, occupational status, family income, financial status, type of family, number of children, nature of work and stress level Stress level before and after the administration of yoga in the Experimental group was at $p>0.05$ level. So the null hypothesis Ho2 was accepted based on the findings.

Table 7

Association between the selected demographic variables and the stress level of post menopausal women before and after yoga in the control group.

(N=30)

Demographic variable	Pre test Level of Stress							Post test Level of Stress						
	Mild		Moderate		Severe		χ^2	Mild		Moderate		Severe		χ^2
	n	p	n	p	n	p		n	p	n	p	n	p	
Age In Years														
40 -45	-	-	4	14	6	20	0.03	-	-	6	20	4	13	0.33
46 -50	-	-	7	23	3	10	(df=1)	-	-	7	23	2	7	(df=1)
51 -55	-	-	8	26	2	7		-	-	9	30	2	7	
Religion														
Hindu	-	-	6	20	6	20	0.36	-	-	8	27	4	13	0.09
Christian	-	-	5	17	1	43	(df=1)	-	-	15	50	3	10	(df=1)
Muslim	-	-	-	-	3	-		-	-	-	-	-	-	
Others	-	-	-	-	-	-		-	-	-	-	-	-	
(specify)					-									
Marital Status														
Married	-	-	14	47	1	33	0.08	-	-	17	57	7	24	
Unmarried	-	-	-	-	0	-	(df=2)	-	-	-	-	-	-	3.04
Separated/ divorced	-	-	1	3	-	3		-	-	1	3	1	3	(df=2)
Widow	-	-	3	10	1	3		-	-	3	10	1	3	
					1									
Educational Status														
Illiterate	-	-	13	43	8	26		-	-	16	53	8	26	
Primary education	-	-	5	17	2	7	1.10	-	-	5	16	2	7	
secondary education	-	-	2	7	-	-	(df=1)	-	-	1	3	-	-	2.31
Higher secondary	-	-	-	-	-	-		-	-	2	7	-	-	(df=1)
College and above	-	-	-	-	-	-		-	-	-	-	-	-	
Occupational Status														
Employed in some organization	-	-	-	-	-	-	0.19 (df=1)	-	-	-	-	-	-	0.19 (df=1)
Coolie	-	-	6	20	2	7		-	-	7	23	1	3	
House wife	-	-	13	43	9	30		-	-	17	57	5	17	

Family Income														
< 3000	-	-	12	40	7	23	0.9	-	-	16	54	4	13	
3001 - 5000	-	-	6	20	4	14	(df=1)	-	-	7	23	2	7	0.9
5001 –8000	-	-	1	3	-	-		-	-	1	3	-	-	(df=1)
>8000	-	-	-	-	-	-		-	-	-	-	-	-	
Financial Status														
Independent	-	-	6	20	3	10	0.19	-	-	7	23	2	7	0.19
Dependent	-	-	13	43	8	27	(df=1)	-	-	17	57	4	13	(df=1)
Type of Family														
Joint family	-	-	7	23	3	10	0.24	-	-	7	23	2	7	
Nuclear family	-	-	12	40	8	27	df=2	-	-	12	40	4	13	0.31
Extended family	-	-	-	-	-	-		-	-	-	-	-	-	(df=1)
Number of Children														
1	-	-	-	-	-	-	1.49	-	-	1	3	3	10	1.93
2	-	-	8	26	2	8	(df=1)	-	-	9	30	2	7	(df=1)
3	-	-	6	20	8	26		-	-	4	14	1	3	
>3	-	-	3	10	3	10		-	-	3	10	7	23	
Nature of Work														
Sedentary work	-	-	-	-	2	-		-	-	-	-	-	-	
Moderate work	-	-	6	20	-	7	0.19	-	-	5	17	1	3	0.19
Heavy work	-	-	-	-	-	-	(df=1)	-	-	-	-	-	-	(df=1)
Not working	-	-	13	43	9	30		-	-	17	57	7	23	

It can be inferred from table 7, that there was no significant association between age, religion, marital status, educational status, occupational status, family income, financial status, type of family, number of children, nature of work and stress level in pretest and post test among the control group at $p>0.05$ level. So the null hypothesis Ho2 was accepted based on the findings

Table 8

Association between the selected clinical variables and the stress level of post menopausal women before and after yoga in the experimental group.

(N=30)

Clinical variable	Pre test Level of Stress						χ^2	Post test level of stress						χ^2
	Mild		Moderate		Severe			Mild		Moderate		Severe		
	n	p	n	p	n	P		n	p	n	p	n	p	
Body Mass Index	-	-	3	10	5	17	0.81	4	13	5	17	-	-	
<25	-	-	10	33	5	17	(df=1)	10	33	5	17	-	-	0.7
26-30	-	-	1	3	3	10		1	3	2	7	-	-	(df=1)
31- 35	-	-	2	7	1	3		2	7	1	3	-	-	
>35														
Presence of Chronic illness														
Yes	-	-	7	23	3	10	0.78	7	24	3	10	-	-	1.1
No	-	-	9	30	11	37	(df=1)	10	33	10	33	-	-	(df=1)
Mention the illness														
hypertension	-	-	3	10	1	3	7.13	3	10	1	3	-	-	7
diabetes mellitus	-	-	4	14	-	-	(df=3)	4	14	-	-	-	-	(df=3)
both	-	-	-	-	2	7		-	-	2	7	-	-	
nil	-	-	8	27	12	39		10	33	10	33	-	-	
Duration Of Hypertension														
<2 years	-	-	1	3	2	7	0.78	1	3	2	7	-	-	0.78
3-5 years	-	-	2	7	1	3	(df=3)	2	7	1	3	-	-	(df=3)
>5 years	-	-	-	-	-	-		-	-	-	-	-	-	
Nil	-	-	14	47	10	33		14	47	10	33	-	-	
Duration of Diabetes Mellitus														
<2 years	-	-	1	3	1	3	1.86	1	3	1	3	-	-	1.2
3-5 years	-	-	1	3	-	-	(df=3)	1	3	-	-	-	-	(df=3)
>5 year	-	-	2	8	1	3		2	7	1	3	-	-	
Nil	-	-	12	40	12	40		13	43	11	38	-	-	

Duration after Menopause														
<1 year	-	-	2	7	8	27	1.2	2	7	8	27	-	-	2.59
2-5 years	-	-	4	14	1	3	(df=1)	5	17	1	3	-	-	(df=1)
>5years	-	-	10	33	5	16		10	33	4	13	-	-	
Bone and Joint Pain														
Yes	-	-	1	3	2	7	0.07	1	3	2	7	-	-	0.72
No	-	-	13	43	14	47	(df=1)	16	54	11	36	-	-	(df=1)
Sleep disturbance														
Yes	-	-	2	7	-	-	1.17	2	7	2	7	-	-	0.07
No	-	-	13	43	15	50	(df=1)	15	50	11	36	-	-	(df=1)

Table 8, depicted that there was no significant association between body mass index, presence of chronic illness and duration of hypertension, duration of diabetes mellitus, duration after menopause, bone and joint pain, sleep disturbances and stress level before and after the administration of yoga in the Experimental group at $p>0.05$ level. Hence the null hypothesis Ho2 was accepted based on the results.

Table 9

Association between the selected clinical variables and stress level of post menopausal women before and after yoga in the control group.

(N=30)

Clinical variable	Pre test Level of Stress						χ^2	Post test level of stress						χ^2
	Mild		Moderate		Severe			Mild		Moderate		Severe		
	n	p	n	p	n	p		n	p	n	p	n	p	
Body Mass Index														
<25	-	-	2	7	3	10	1.29	-	-	3	10	2	7	0.12
26-30	-	-	12	39	7	23	(df=1)	-	-	15	50	5	17	
31- 35	-	-	4	14	2	7		-	-	4	13	1	3	(df=1)
>35	-	-	-	-	-	-		-	-	-	-	-	-	
Presence of Chronic illness														
Yes	-	-	7	23	7	23	1.23	-	-	9	30	5	17	1.3
No	-	-	12	40	4	14	(df=1)	-	-	14	46	2	7	
														(df=1)
Mention the illness														
hypertension	-	-	2	7	3	10		-	-	4	13	1	3	
diabetes mellitus	-	-	4	14	2	7	4.70	-	-	4	14	2	7	4.70
both	-	-	1	3	2	7	(df=3)	-	-	1	3	2	7	
nil	-	-	12	39	4	13		-	-	13	43	3	10	(df=3)
Duration Of Hypertension														
<2 years	-	-	1	3	2	7	4.32	-	-	3	10	-	-	5.39
3-5 years	-	-	1	3	2	7	(df=3)	-	-	1	3	2	7	
>5 years	-	-	1	3	1	3		-	-	1	3	1	3	(df=3)
Nil	-	-	16	54	6	20		-	-	16	54	6	20	

Duration of Diabetes Mellitus														
<2 years	-	-	4	13	2	7		-	-	3	10	2	7	1.92
3-5 years	-	-	1	3	1	3	1.88	-	-	1	3	1	3	
>5 year	-	-	-	-	1	3	(df=3)	-	-	-	-	1	3	(df=3)
Nil	-	-	14	47	7	24		-	-	17	57	5	17	
Duration after Menopause														
<1 year	-	-	7	24	3	10	4.31*	-	-	9	30	1	3	4.31*
2-5 years	-	-	7	24	3	10	(df=1)	-	-	8	27	2	7	(df=1)
>5years	-	-	5	16	5	16		-	-	6	20	4	13	
Bone and Joint Pain														
Yes	-	-	18	60	11	37	0.9	-	-	18	60	1	37	0.9
No	-	-	1	3	-	-	(df=1)	-	-	1	3	1	-	(df=1)
Sleep disturbance														
Yes	-	-	3	10	-	-	3.64	-	-	20	67	8	27	3.6
No	-	-	15	50	12	40	(df=1)	-	-	1	3	1	3	(df=1)

*p<0.05

It could be inferred from table 9 that there was no significant association between body mass index, presence of chronic illness and duration of hypertension, duration of diabetes mellitus, bone and joint pain, sleep disturbances and stress level in pretest and post test in the control group at p>0.05 level.

There was significant association between duration of menopause and stress level before and after the administration of yoga in the control group at p<0.05 level. So the null hypothesis Ho2 was accepted except for the variable of duration after menopause in control group.

Summary

This chapter has dealt with analysis and interpretation of the data obtained by the researcher. The analysis of the result showed the effectiveness of yoga. The mean and standard deviation of difference in stress among post menopausal women was statistically significant at $p < 0.001$ in the Experimental group before and after the administration of yoga.

Chapter –V
Discussions

CHAPTER V

DISCUSSION

Statement of the problem

"An Experimental study to assess the effectiveness of yoga upon stress among post menopausal women in selected areas of Chennai."

The Objectives of the study were

1. To find out the stress level among post menopausal women in selected areas of Chennai.
2. To assess the effectiveness of yoga among post menopausal women.
3. To find out the association between selected variables and the level of stress among the control and experimental groups of post menopausal women.
4. To assess the level of satisfaction regarding yoga among the experimental group of post menopausal women.

The discussion was presented under the following

- Demographic variables of post menopausal women.
- Clinical variables of post menopausal women.
- Stress level of post menopausal women.
- Comparison of mean and standard deviation of stress level of post menopausal women before and after the administration of yoga.
- Association between the level of stress and selected demographic variables of post menopausal women.

- Association between the level of stress and selected clinical variables of post menopausal women.
- Level of satisfaction regarding yoga among post menopausal women with stress.

Demographic variables of Post menopausal women

The study findings revealed that half of the menopausal women both experimental and control groups were in the age group of 51-55 years (50%, 33%). It may be due to the fact that usually women attain menopause around 50 years of age. It highlights the need for psychiatric nurses to concentrate more on this age group to reduce the morbidity related to hormonal changes and stress in post menopausal women through various strategies. It also indicates the importance of focusing on this particular age group of post menopausal women in future research in promoting their wellness and quality of life by reducing the level of stress. This finding was consistent with the research conducted by Adamopoulos (2002) in which it is reported that 95% of menopausal women's median age was 51 years.

Most of them in both the control and experimental group were illiterates (66%). It denoted that in India illiteracy is high in rural area compared with Urban due to various factors such as ignorance, non availability of schools in their locality, lack of awareness of parents etc.

Majority of them in the experimental and control group were house wives (87%, 73%). It may be due to the fact that since the study participants were female from rural areas and illiterates. Since majority of them were house wives they can be demonstrated

with humor therapy, meditation and other complementary therapies to reduce their stress and loneliness at home by the nurses and other health care professionals.

More than half of them in the control group and experimental group were with the income of <3000 (63%, 54%). Living in rural area with out much education may be the contributary factor of low income. Thus it is important for nurses to motivate the people to adapt low cost measures such as yoga, meditation etc for managing stress. The view was highlighted by the study conducted by Kiruba (2006) in Chennai.

Majority of them both in the experimental and control group were married (70%, 97%). It may be due to the fact that in India separation and divorce is not commonly accepted and women tend to live with their husband till death. It also shows the importance for the Psychiatric nurse to concentrate more on family counseling to adapt their menopausal changes and stress by which the menopausal women can get good family support during their menopausal period.

Clinical variables of post menopausal women

The significant findings regularly the clinical variables showed that half of them in experimental and 66% in control group were found to have over weight problem (50%, 66%).It may be due to the fact that, since the age of the population is above 45 years. There is a tendency of the women to put on more weight..This highlights the need for the nurses to plan for weight reduction strategies among post menopausal women which will be helpful in preventing many age and hormonal related complications, which may be confounded with obesity.

Stress level of post menopausal women

The findings of the present study revealed that majority of the women had moderate stress level (60%, 63%) both in the experimental and control groups before the administration of yoga. The researcher concluded that the moderate level of stress could be reduced further if appropriate measures are taken. All Psychiatric, Maternity and Community Nurses must be educated regarding the stress management of post menopausal women. So as to disseminate the knowledge to the public.

Comparison of mean and standard deviation of stress level of post menopausal women before and after the administration of yoga.

The mean and standard deviation of stress level in pretest and posttest in the control group is 39 ±9 and 37 ± 8 ($p>0.05$) whereas in the experimental group it is 40 ±8 and 27± 5 ($p<0.001$) which indicates that yoga is effective in reducing stress level among postmenopausal women. Thus the null hypothesis Ho1 was rejected.

It is essential for all those who are concerned to disseminate these findings so that evidence based knowledge can be utilized in the clinical setting to reduce the stress level through administration of yoga. It also reflects the need for the nursing personnel to concentrate more on alternative and complementary therapy by which we prevent the complications. The menopausal women should gain knowledge regarding the relaxation technique and alternative remedies for stress management.

The study findings are consistent with the research conducted by Kiruba (2006) where it is reported that yoga is effective in reducing stress and promoting psychological well being among peri menopausal women

Association between the level of stress and selected demographic variables of post menopausal women.

There is no significant association between selected demographic variables and severity of menopausal symptoms in the experimental and control groups before and after the administration of yoga. Hence, null hypothesis Ho2 was rejected. This finding was supported by a case control study conducted by Strenfeld et al (1999) who identified that physical activity was not associated with reduced risk of psychological stress among post menopausal women. This reflects the fact that the post menopausal women suffer from stress irrespective of their demographic variables.

This finding was contradictory to the study conducted by Ruby Yu, Suzanne C. Ho (2010) who revealed that compared with house wives, women with paid employment had higher stress score. Ho et al also found that women who never married, widowed, divorced or separated had generally high stress level than those living with a partner which was contradictory to this study findings. Inconsistent findings in this area needs to be analysed further with large number of sample to draw conclusion.

Association between the level of stress and selected clinical variables of post menopausal women.

There was a no significant association between selected clinical variables and stress before and after the administration of yoga in the experimental group. Hence null

hypothesis Ho3 is rejected. In the control group there was significant association between duration of menopause and stress level before and after the administration of yoga. Hence the null hypothesis Ho2 was rejected except for the variable of duration after menopause.

Women with more than 5 years of duration after menopause had more stress. It may be due to the fact that women suffer from age and hormone related problems after many years of menopause which may indirectly influence the stress level.

Level of satisfaction regarding yoga among post menopausal women with stress.

The researchers found that majority of menopausal women were highly satisfied (77%) and significant percentage of them was satisfied (23%) regarding the intervention of yoga. This finding indicated that the administration of yoga is effective in reducing the stress level. Since it is easy to administer, harmless and cost effective, easy to follow many of the women reported level high level of satisfaction. So the nurses can be instrumental in the administering yoga to the women with out any harm full effect to reduce the stress by which the quality of life can be improved.

It is reported in Swedish qualitative study that the menopausal transition a developmental process, was a natural part of the life span of a women (Lindh-Astrand et al, 2007). Menopause is a significant life event that currently affects millions of women worldwide. Nurses are instrumental in providing comprehensive care in the context of a well women's health model to assess and address the physical and psychological challenges encountered during menopause. Given the shortage of physician in many rural areas, it is essential for the advanced practiced nurses to offer holistic care and

comprehensive support to women, both to enhance their well being as they transit through menopause and to optimize their health as they age.

The study findings have thrown light on the fact that stress experienced by the post menopausal women could be reduced through effective interventions by nurses. Yoga is an external, practical science evolved over thousands of years aiming at physical, mental, moral and spiritual well being of people. Researches revealed the power of yoga in reducing stress and it results in automatic balance where the entire functioning of the body and mind get readjusted resulting in better health.

Summary

This chapter has dealt with the objectives of the study, major findings of the demographic and clinical variables of the menopausal women, description of severity of stress level before and after the administration of yoga and association between the demographic and clinical variables with severity of stress in the control and experimental groups before and after the administration of yoga.

Chapter-VI
Summary, conclusions, implications and Recommendations

CHAPTER VI

SUMMARY, CONCLUSION, IMPLICATIONS AND RECOMMENDATIONS

This chapter deals with the Summary, Conclusion, Implications and Recommendations of the study. “An Experimental study to assess the effectiveness of yoga upon stress among post menopausal women in selected villages at Ayanambakkam in Chennai.”

Summary

The heart of the research project lies in reporting the findings. This is the most creative demanding part of the study. The aim of the study was to assess the effectiveness of yoga upon stress among the post menopausal women.

The Objectives of the study were

1. To find out the stress the level among post menopausal women in selected areas of Chennai.
2. To assess the effectiveness of yoga among the postmenopausal women.
3. To find out the association between the selected variables and the level of stress among the post menopausal women in the experimental and control groups.
4. To assess the level of satisfaction regarding yoga therapy among the post menopausal women in the experimental group.

Null Hypotheses

Ho1: There will be no significant difference in stress scores among post menopausal women before and after yoga in the experimental and control group.

Ho2: There will be no significant association between selected variables and the level of stress among post menopausal women before and after yoga in the experimental and control group.

Conceptual framework of this study was based on Roy‘s Adaptation Model for conceptualization of stress adaptation which was modified for the present study. An extensive review of literature and guidance by experts laid the foundation to the development of proforma, Perceived stress scale, and the level of satisfaction. An experimental approach with two groups pre test and post test design was adopted for the study. The present study was conducted at selected villages in Chennai at Ayanambakkam. The sample size was 60 and they were selected at random by simple random sampling of which 30 were assigned to the control and 30 were assigned to the experimental group after randomization.

The investigator used four tools to collect data from the post menopausal women. The data collection tools were validated and reliability was established. After the pilot study, the data collection of the main study was done. yoga was administered to all post menopausal women in the experimental group for 7 days. Stress level was assessed before and after administration of yoga for control and experimental group. The collected data were tabulated and analyzed using appropriate descriptive and inferential statistics.

The major findings of the study

Demographic variables of Post menopausal women

In the control and experimental groups majority of them were married (80%, 97%), house wives (73%, 87%), dependent (73%, 87%) and all of them were non vegetarian (100%, 100%). Their age group was between 51-55 (33%, 50%) and they belong to Hindu religion (40%, 56%), illiterate (66%, 66%) living in nuclear family (67%, 47%) and had family income of <3000 (63%,54%). Twenty seven percentage of them in the control group and 13% of them in the experimental group were moderate workers. Forty seven percentage in control group and 37% in the experimental group had 3 children.

Clinical variables

In this present study majority of them had knee and joint pain (97%, 87%) and sleep disturbances (87%, 93%) in the control and experimental groups. Most of them had over weight problem (66%, 50%) and only some of them had diagnosed problems such as Hypertension (27%, 20%) and Diabetes (20%, 20%).

Mean and standard deviation of stress level of post menopausal women

The mean and standard deviation of stress level in pretest and posttest in the control group was 39 ± 9 and 37 ± 8 ($p>0.05$) where as in experimental group was 40 ±8 and 27± 5 ($p<0.001$) which indicated that yoga was effective in reducing stress level among the postmenopausal women. Thus the null hypothesis Ho1 was rejected.

Association between selected demographic variables, and the stress level of post menopausal women

There was no significant association between the selected demographic variables and the stress level of post menopausal women in both the experimental and control groups. Hence the null hypothesis Ho2 (There will be no significant association between selected variables in the level of stress among the post menopausal women before and after yoga in the experimental and control groups) was accepted.

Association between selected clinical variables and the stress level of post menopausal women

There was no significant association between selected clinical variable and stress level. So the null hypothesis Ho2 (There will be no significant association between selected variables in the level of stress among post menopausal women before and after yoga in the experimental and control groups) was accepted. Control group showed that there was no significant association between selected clinical variables and stress level except for the variable of duration after menopause.

Level of Satisfaction among the post menopausal women regarding yoga

Most of the women were highly satisfied with yoga (77%) and significant percentage of them were satisfied regarding yoga (23%).

Conclusion

The findings indicated that stress is one of the important psychological problem that the post menopausal women are facing all over the world for which it could be

reduced with proper selection practice of relaxation techniques based on their need and interest. The excavated results supported that yoga is one of the best relaxation technique to bring down the stress level among the post menopausal women.

Implications

The findings of the study has implications in different branches of nursing profession, i.e. nursing practice, nursing education, nursing administration and nursing research. By assessing the effectiveness of yoga in reduction we get clear pictures regarding different steps to be taken in all these fields to improve the standards of nursing profession.

Nursing Practice

Psychiatric clinical practice nurses have favorable offer to educate post menopausal women regarding stress reduction. The study findings also showed that the post menopausal women were unaware of yoga and its clinical benefits, especially in rural areas. This showed that the health care provider plays a vital role in educating post menopausal women about yoga.

With emerging healthcare trends nurses must also know about the body mind therapy and holistic nursing care concept. This helps the clinical nurses to use yoga as body mind therapy in holistic approach of stress reduction. Nurses need evidence based practice in managing the post menopausal women with stress.

Nursing Education

Nurse educators when planning for instructing nursing students should provide opportunities for students to gain the knowledge in techniques of stress reduction. The study outlined the significance of short term courses and in service education to equip the nurses with current knowledge in body mind therapies like yoga. Nurse educators should check out suitable programmes to educate the public and nurses on the importance of yoga to promote quality of life. So nursing students at all levels should be taught about psychological stress faced during menopause and cost effective alternative therapies to come out of stress.

Nursing Administration

With advanced technology and ever growing challenges of health care needs, the college and hospital administrators, have a responsibility to provide nurses, nurse educators with continuing opportunities on relaxation techniques like yoga and its benefits, health promoting properties and its availability. This will enable the nurses to update their knowledge and acquire special skills in the preparation and use of adequate and healthy stress management strategies. The nurse administrators could conduct global programmes through which stress could be decreased and it helps to improve the quality of life and public knowledge on stress reduction.

Nurse administrators should take adequate steps with the growing bodies in formulating policies and protocol to emphasize on nursing care of menopausal women with the symptoms, and plan for man power, money, material methods and time to

conduct the programmes. Nurse administrators should provide opportunities for the nurses and midwives to attend the training programmes.

Nursing Research

There is a need for intensive and extensive research in this area. It opens a big avenue for innovative methods of creating awareness, development of teaching material and setting up multimedia centers for teaching, creating awareness among the public regarding the relaxation techniques, its benefits, health promoting properties and its availability. There is a need for extensive and intensive research in this area to generate more specific data base and to identify the benefits of therapies and provide much needed information for the consumers and providers. We should encourage further researches on the effectiveness of yoga with various population. We should Disseminate the findings through conferences, seminars, publications in professional, national, international journals and World Wide Web.

Recommendations

- The same study could be conducted on a large sample for a longer duration to generalize the results.
- A similar study could be conducted for all age groups to assess the effectiveness of yoga.
- The effectiveness of yoga may be assessed upon the level of satisfaction of participants.
- A comparative study could be conducted to evaluate the effectiveness of yoga and other relaxation techniques..

- It may be conducted in different settings among various population groups where more estimated cases were present.
- A comparative study could be conducted in urban and rural settings.

Delimitations

- The study period was limited to 5 weeks.
- The study was limited to post menopausal women who attained menopause at selected villages in Chennai
- Yoga was selected by the researcher and used uniformly for all the study participants

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